American Public University System

The Ultimate Advantage is an Educated Mind

School of Security and Global Studies **HLSS505** **Security Risk Management** **Credit Hours: 3** **Length of Course: 8 Weeks** **Prerequisite: HLSS500**

Course Description (Catalog)

This course introduces the student to the components of risk management to include planning and strategies to mitigate risk. Students in this course will examine the role of risk management at the strategic and enterprise levels in the prevention of loss and mitigation of consequences through risk identification and control. This course will allow students to develop and apply risk management techniques to include selection of risk management measures and implementation of those measures.

Course Scope

As part of the core requirement, this course introduces the student to critical elements of the discipline. Students will participate in weekly Discussion Forums that correlate to weekly readings. Students will write an analytical research paper and will write a comprehensive final assignment.

Course Objectives

After successfully completing this course, you will be able to:

CO1 – Analyze the security risks associated with the critical infrastructure sectors described in HSPD-7
CO2 – Examine key infrastructure sector asset types, functions, and regulatory structures.
CO3 – Produce a risk analysis of a key infrastructure sector
CO4 – Create a protection strategy for a key infrastructure sector.
CO5 – Evaluate the risk management program development process.

Course Delivery Method

This course, delivered via distance learning, will enable students to complete academic work in a flexible manner, completely online. Course materials

and access to an online learning management system will be available to each student. Online assignments are due by Sunday at 11:55 pm ET of each week, and include all written assignments, examinations, and research papers submitted for grading. Answers to the Weekly Forum questions (accomplished in groups in a Forum) require an initial response by Thursday at 11:55 pm ET of each week, with all other required responses/replies to fellow classmates due by Sunday at 11:55 pm ET. The assigned faculty member will support the students throughout this eight-week course.

Course Resources

Required Course Textbooks

There is no one required textbook for this course. External websites and other assigned readings are found in the Syllabus and in the Lessons area of the classroom.

Evaluation Procedures

The course grade is based on the following assessments:

Discussion Forums – 25 percent

Each week, a discussion forum is provided and posts should reflect an assimilation of the readings. Students are required to provide a substantive initial post by Thursday at 11:55 pm ET (by Sunday for week 1) and respond to two or more classmates by Sunday 11:55 pm ET. Forum posts are graded on timeliness, relevance, knowledge of the weekly readings, and the quality of original ideas.

Point Paper on a Risk Methodology – 15 percent

The components of this assignment include a research question relating to the various pros and cons of using a risk methodology (you choose from general research) in security management. This paper shall include a description of a risk methodology, its basic makeup, data sources, etc., and the pros, cons, ease/difficulty of use, etc. The point paper should be 3-5 pages not including the cover page.

Research Paper – 25 percent

Adding to the 3 - 5 page Point Paper assignment due at the end of Week 3, the research paper should be at least 6 additional pages of analysis

reviewing at least 3 different specific risk analysis models (MSRAM, CARVER, etc), and any other risk management tools available to decision-makers, etc. The page totals do not include the cover page, the reference list page, and any appendices/attachments.

Or alternatively, the in lieu of the above, students may elect to develop an 10-12 page comprehensive written risk assessment and risk management strategy for a particular infrastructure system(s) utilizing one or a combination of the risk methodologies studied in the course. As a first step, learners will provide a detailed analysis of the infrastructure system itself, consisting of the following elements: system definition/description; summary of stakeholders and their perspectives on the system; pertinent historical incidents affecting similar systems. Next, learners will use their knowledge of the infrastructure system selected to comprehensively identify vulnerabilities, describe the types of threats that could exploit these vulnerabilities, and estimate how compromising the system will adversely affect the interests of one or more stakeholders. Learners will then identify various approaches/options for mitigating system vulnerabilities and evaluate them in terms of their costs and benefits and ability to reduce or manage risk.

Risk Analysis Calculation – 10 Percent

This assignment requires that the students select a specific critical infrastructure or a critical infrastructure sector that will be reviewed for risk using at two different risk analysis models, the Carver Model and the Multi-Criterion analysis model (links to the Models and their spreadsheets are located in the Assignments Tab). Upon completion of the risk analysis scoring, students shall propose actions/activities that will reduce the risk/vulnerability of the infrastructure. The paper shall show calculations in the risk models, with at least a 1-page discussion of your proposed risk reduction strategies/activities.

Final Assignment – 25 percent

This assignment is a take-home essay assignment of four questions, 2-3 pages each, to test knowledge and assimilation of the course objectives. Students may use outside sources in answering their Final Assessment as long as the source is cited in APA.

Assignments	Percentage
Point Paper	15 percent
Assignment	25 percent

Research Paper	25 percent
Forum Discussion Posts	10 percent
Risk Analysis Calculation	
Final Assessment	25 percent
TOTAL	100 percent

8 – Week Course Outline

Week 1: Definitions of Risk
Course Objective: CO1

Assignments: Complete Introduction Forum and Week 1 Forum

Required Readings:
DHS. (2011, April). Risk Management Fundamentals: Homeland Security Risk Management Doctrine, 1-15. Retrieved from http://www.dhs.gov/xlibrary/assets/rma-risk-management-fundamentals.pdf

Kaplan, S. & Garrick, J. (1981). On the Quantitative Definition of Risk, 1-9. Retrieved from http://josiah.berkeley.edu/2007Fall/NE275/CourseReader/3.pdf

Stern, P. & Fineberg, H. (1996, June). Understanding Risk: Informing Decisions in a Democratic Society. Chapters 1-2. Retrieved from http://ezproxy.apus.edu/login?url=http://site.ebrary.com/lib/apus/docDetail.action?docID=10057067

Committee to Review the Department of Homeland Security's Approach to Risk & National Research Council of the National Academies. (2010). *Review of the Department of Homeland Security's approach to risk analysis*. Washington, D.C.: National Academies Press. Retrieved from http://ezproxy.apus.edu/login?url=http://site.ebrary.com/lib/apus/docDetail.action?docID=10425171

Testimony before Congress on TSA Risk Based Security Efforts. (2013, April 11).TSA'S Efforts to Advance Risk-Based Security: Stakeholder Perspectives. Retrieved from http://www.gpo.gov/fdsys/pkg/CHRG-113hhrg82579/html/CHRG-113hhrg82579.htm

Video: Simple Risk (CHDS). Retrieved from
https://www.chds.us/coursefiles/cip/lectures/foundations/cip_simple_risk/player.html

Week 2: Critical Infrastructure and Key Assets
Course Objective: CO1 and CO2

Assignments: Complete Week 2 Forum

Required Readings:
Presidential Decision Directive - 21 (PDD-21). Retrieved from
http://www.whitehouse.gov/the-press-office/2013/02/12/presidential-policy-directive-critical-infrastructure-security-and-resil

National Infrastructure Protection Plan (NIPP), pp. 1-27. Retrieved from
http://www.dhs.gov/xlibrary/assets/NIPP_Plan.pdf

Homeland Security Presidential Directive 7 (HSPD-7). Retrieved from
http://www.dhs.gov/homeland-security-presidential-directive-7#1

Presidential Decision Directive-63 (PDD-63). (1998). Critical Infrastructure Protection. Retrieved from http://www.fas.org/irp/offdocs/pdd/pdd-63.htm.

Marsh, R. (1997). Critical Foundations: Protecting America's Infrastructures. Retrieved from http://www.fas.org/sgp/library/pccip.pdf.

FEMA Online Course IS-860.a. National Infrastructure Protection Plan. Retrieved from http://training.fema.gov/EMIWeb/IS/IS860a.asp

George Mason University. (2007). Critical Infrastructure Protection: Elements of Risk, Chapter 2. Intelligence Analysis for Strategic Risk Assessments. Retrieved from
http://steelcityre.com/documents/riskMonograph_1207.pdf

Reese, S. (2013, January 8). Defining Homeland Security: Analysis and Congressional Considerations. CRS. Retrieved from
http://www.fas.org/sgp/crs/homesec/R42462.pdf

Week 3: Critical Infrastructure and Risk
Course Objective: CO3

Assignments: Complete Week 3 Forum and Assignment 1

Required Readings:
Fishchoff, B., Watson, S., & Hope, C. (1984). Defining risk. *Policy Sciences, 17*, 123-129. Retrieved from
http://sds.hss.cmu.edu/risk/articles/definingrisk.pdf

Risk Assessment Methodologies for Critical Infrastructure Protection Part 1: State of the Art. Retrieved from
http://ec.europa.eu/dgs/home-affairs/e-library/docs/pdf/ra_ver2_en.pdf

Kamien, D. (2012). The Psychological Perception of Risk, pp. 397 – 421. *McGraw-Hill homeland security handbook: Strategic guidance for a coordinated approach to effective security and emergency management, second edition*. 2 ed. New York: McGraw-Hill. Retrieved from
http://ezproxy.apus.edu/login?url=http://library.books24x7.com/toc.asp?bookid=56447

Moteff, J. (2008). Critical Infrastructure Protection: Background, Policy and Implementation. Retrieved from
http://www.fas.org/sgp/crs/homesec/RL30153.pdf.

FEMA. (n.d.). Partnering for Critical Infrastructure Preparedness, Critical Infrastructure Resilience: The Next Frontier in Homeland Security, and Protecting Our Food, Levees, and Ports: University Solutions. Retrieved from
http://www.dhs.gov/critical-infrastructure-learning-series

Congressional Research Service. (2002, August 20). What Makes Infrastructure Critical? Retrieved from
http://www.libertysecurity.org/IMG/pdf/CRS_Report_-_What_makes_an_Infrastructure_Critical_-_30.08.2002.pdf

NIPP, pp. 27-69. Retrieved from
http://www.dhs.gov/xlibrary/assets/NIPP_Plan.pdf

Week 4: Risk Analysis and Critical Infrastructure
Course Objective: CO3

Assignments: Complete Week 4 Forum

Required Readings:

Kamien, D. (2012). National Terrorism Advisory System and Critical Infrastructure and Interdependency Revisited, pp. 425-455. *McGraw-Hill homeland security handbook: Strategic guidance for a coordinated approach to effective security and emergency management, second edition*. 2 ed. New York: McGraw-Hill. Retrieved from http://ezproxy.apus.edu/login?url=http://library.books24x7.com/toc.asp?bookid=56447

Haddow, G. & Bullock, J, (2008). Hazards Risk Management: Hazards Risk Management, pp. 27-69 in *Introduction to Emergency Management, 3rd* ed. Butterworth-Heinemann of Elsevier. Retrieved from https://www.semperfidelis.ro/e107_files/public/1329174607_2073_FT76534_george_haddow__jane_bullock__damon_p._coppola__introduction_to_emergency_management_3rd_edition_2008.pdf

Appendix 3A of NIPP. Retrieved from http://www.dhs.gov/xlibrary/assets/NIPP_Plan.pdf

Chemical Facilities Anti-Terrorism Standards. Retrieved from http://www.dhs.gov/risk-chemical-facility-anti-terrorism-standards-cfats

Video: Threat Based Approach to Risk. Retrieved from http://www.chds.us/?player&id=2464

Video: Risk Analysis. Retrieved from https://www.chds.us/coursefiles/cip/lectures/riskanalysis/cip_riskanalysis/player.html

Week 5: Risk Analysis and Models
Course Objective: CO3

Assignments: Complete Week 5 Forum

Required Readings:
CRS. (2005). Risk Management and Critical Infrastructure Protection: Assessing, integrating and managing Threats, Vulnerabilities and Consequences. Retrieved from http://fas.org/sgp/crs/homesec/RL32561.pdf

GAO. (2008). *Strengthening the Use of Risk Management Principles in Homeland Security.* Retrieved from http://www.gao.gov/assets/130/120506.pdf.

GAO. (1999, April). Threat and Risk Assessments Can Help Prioritize and Target Program Investments, pp 1-17 and Appendices II, IV, & V. Retrieved from http://www.gao.gov/assets/230/225499.pdf

GAO. (2003, April). Critical Infrastructure Protection: DHS Efforts to Assess Chemical Security Risk and Gather Feedback on Facility Outreach Can Be Strengthened. Retrieved from http://www.gao.gov/products/GAO-13-353

Kahn, F. (2001). Use Maximum-Credible Accident Scenarios for Realistic and Reliable Risk Assessment. *Chemical Engineering Progress Magazine*. Retrieved from http://people.clarkson.edu/~wwilcox/Design/riskasss.pdf

Week 6: Constructing Protection Strategies Using Modeling
Course Objective: CO4

Assignments: Complete Week 6 Forum and Assignment 2

Required Readings:
NIPP, pp. 71-95. Retrieved from
http://www.dhs.gov/xlibrary/assets/NIPP_Plan.pdf

Help and examples in using the Carver Spreadsheet:
http://www.brighthubpm.com/project-planning/122417-carver-matrix-a-versatile-project-management-tool/

FEMA: Online 2-hour Fundamentals of Risk Management Course
http://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=is-454

Epstein, J. (2008). Why Model. Retrieved from
http://www.santafe.edu/media/workingpapers/08-09-040.pdf

Video: Risk Analysis: Critical Node Risk Reduction.
https://www.chds.us/coursefiles/cip/lectures/riskanalysis/cip_riskanalysis_criticalnodereduction/player.html

Video: Strategic Risk Analysis, Approaches and Methods:
http://www.chds.us/?player&id=1784

Week 7: Implementing Risk Management Procedures
Course Objective: CO4 and CO5

Assignments: Complete Week 7 Forum and Assignment 3

Required Readings:

GAO. (2011, Nov.). Coast Guard's MSRAM program meets DHS's Risk Assessment criteria, but that more training could enhance its use for Managing Programs and Operations. Retrieved from
http://www.gao.gov/assets/590/587144.pdf

FEMA. Document 542: A How-To Guide To Mitigate Terrorist Attacks Against Buildings. Retrieved from
http://www.fema.gov/library/viewRecord.do?id=1938

Kamien, D. (2012). The Psychological Perception of Risk. *McGraw-Hill homeland security handbook: Strategic guidance for a coordinated approach to effective security and emergency management, second edition*. 2 ed. New York: McGraw-Hill. Retrieved from
http://ezproxy.apus.edu/login?url=http://library.books24x7.com/toc.asp?bookid=56447

Benjamin, D. (2008). What Statistics Don't Tell Us. Retrieved from
http://www.brookings.edu/opinions/2008/0530_terrorism_benjamin.aspx

MSRAM Risk Assessment Tutorial Video. Retrieved from
http://www.chds.us/?player&id=2478

Week 8: Strategic Risk Management
Course Objective: CO5

Assignments: Complete Week 8 Forum and Final Assessment

Required Readings:
Kessler, G. & Daase, C. (2008). From insecurity to uncertainty: Risk and the paradox of security politics. *Alternatives: Global, Local, Political 33*(2), 211-232.

NIPP, pp. 97-103. Retrieved from
http://www.dhs.gov/xlibrary/assets/NIPP_Plan.pdf

DHS. (2011, April). Risk Management Fundamentals: Homeland Security Risk Management Doctrine, pp. 15-29. Retrieved from
http://www.dhs.gov/xlibrary/assets/rma-risk-management-fundamentals.pdf

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Homeland Security Studies and Analysis Institute. (2011, Sept 6). Strategies and Methods for Informing Risk Management: An Alternative Perspective. Retrieved from
http://www.ngs.edu/pdf_docs/McIntyreRiskWhitePaperHSI.pdf

FEMA. Document 452: Preliminary Mitigation Options Spreadsheets. Retrieved from http://www.fema.gov/library/viewRecord.do?id=1938

Wall, K. (2011). The Trouble with Risk Matrices. Retrieved from http://www.nps.edu/Academics/Centers/DRMI/docs/DRMI%20Working%20Paper%2011-2.pdf

Policies

Please see the Student Handbook to reference all University policies. Quick links to frequently asked question about policies are listed below.

> Drop/Withdrawal Policy
> Plagiarism Policy
> Extension Process and Policy
> Disability Accommodations

Citation and Reference Style
Attention Please: Students will follow the APA Style as the sole citation and reference style used in written work submitted as part of coursework for this course.

See http://www.apus.edu/content/dam/online-library/resources-services/Fuson_2012_APA.pdf

Graduate-level work is expected to be free of grammar, usage, and style errors.

Late Assignments
Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. As adults, students, and working professionals, I understand you must manage competing demands on your time. Should you need additional time to complete an assignment, please contact me before the due date so we can discuss the situation and determine an acceptable resolution. Routine

submission of late assignments is unacceptable and may result in points deducted from your final course grade.

Netiquette

Online universities promote the advancement of knowledge through positive and constructive debate – both inside and outside the classroom. Forums on the Internet, however, can occasionally degenerate into needless insults and "flaming." Such activity and the loss of good manners are not acceptable in a university setting – basic academic rules of good behavior and proper "Netiquette" must persist. Remember that you are in a place for the rewards and excitement of learning which does not include descent to personal attacks or student attempts to stifle the Forum of others.

- **Technology Limitations:** While you should feel free to explore the full-range of creative composition in your formal papers, keep e-mail layouts simple. The Sakai classroom may not fully support MIME or HTML encoded messages, which means that bold face, italics, underlining, and a variety of color-coding or other visual effects will not translate in your e-mail messages.
- **Humor Note:** Despite the best of intentions, jokes and especially satire can easily get lost or taken seriously. If you feel the need for humor, you may wish to add "emoticons" to help alert your readers: ;-), :), ☺

Online Library

The Online Library is available to enrolled students and faculty from inside the electronic campus. This is your starting point for access to online books, subscription periodicals, and Web resources that are designed to support your classes and generally not available through search engines on the open Web. In addition, the Online Library provides access to special learning resources, which the University has contracted to assist with your studies. Questions can be directed to **librarian@apus.edu**.

- ***Charles Town Library and Inter Library Loan:*** The University maintains a special library with a limited number of supporting volumes, collection of our professors' publication, and services to search and borrow research books and articles from other libraries.
- ***Electronic Books:*** You can use the online library to uncover and download over 50,000 titles, which have been scanned and made available in electronic format.

- ***Electronic Journals:*** The University provides access to over 12,000 journals, which are available in electronic form and only through limited subscription services.
- ***Tutor.*com**: AMU and APU Civilian & Coast Guard students are eligible for 10 free hours of tutoring provided by APUS. Tutor.com connects you with a professional tutor online 24/7 to provide help with assignments, studying, test prep, resume writing, and more. Tutor.com is tutoring the way it was meant to be. You get expert tutoring whenever you need help, and you work one-to-one with your tutor in your online classroom on your specific problem until it is done.

Request a Library Guide for your course (http://apus.libguides.com/index.php)
The AMU/APU Library Guides provide access to collections of trusted sites on the Open Web and licensed resources on the Deep Web. The following are specially tailored for academic research at APUS:

- Program Portals contain topical and methodological resources to help launch general research in the degree program. To locate, search by department name, or navigate by school.
- Course Lib-Guides narrow the focus to relevant resources for the corresponding course. To locate, search by class code (e.g., SOCI111), or class name.

If a guide you need is not available yet, please email the APUS Library: librarian@apus.edu.

Selected Bibliography

There is no selected bibliography for this course.