# American Public University System

The Ultimate Advantage is an Educated Mind

School of Science and Technology
Department of Information Technology
ISSC680: Information Security Management
3 Credit Hours
8 Week Session
Prerequisite(s): None

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## **Instructor Information**

Instructor: Email: Phone: Office Hours:

## **Course Description (Catalog)**

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Information Security includes an evaluation of the techniques, policies and strategies to ensure that data stored in an organization's computers cannot be accessed or processed without the consent of the organization. Also included, is an analysis of Information Security & Risk Management, Access Control, Physical Security, Security Architecture & Design, Business Continuity & Disaster Recovery Planning, Telecommunications & Network Security, Application Security, Operations Security, Law, Compliance & Investigations. This course also reviews the building blocks of information systems and cryptography is provided to reinforce the scope of security management.

### Course Scope Table of Contents

This course will teach you to develop well-chosen security rules and procedures. This will be done by giving the information security professional a solid understanding of the fundamentals of security and the entire range of issues the practitioner must address. This course will examine the elements of computer security, employee roles and responsibilities, and common threats. We will also examine the need for management controls, policies and procedures, and risk analysis.

Course Objectives Table of Contents

Upon completion of this course of study, the student will be able to:

- Recommend a course of action in support of Information Security & Risk Management.
- 2. Assess the various Access Control methods.
- 3. Differentiate between the different types of cryptographic algorithms.
- 4. Evaluate the features and functionality of various Physical Security models.
- 5. Appraise the various types of Security Architecture & Design models.
- 6. Compare and Contrast various Business Continuity & Disaster Recovery Planning models.
- Inspect and profile examples of Telecommunications & Network Security, Application Security and Operations Security.
- Examine and resolve ethical issues that arise from the intersection of Law, Compliance & Investigations.

## **Course Delivery Method**

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This Masters level 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 made available to each student. **Online assignments are due by the last day of the week assigned** (Sunday) and include Forum questions (accomplished in groups through a threaded Forum), and individual assignments (submitted for review by the Faculty Member). Assigned faculty will support the students throughout this eight-week course.

Course Materials Table of Contents

## **Required Text**

Layton, T. (2007). *Information Security: Design, Implementation, Measurement, and Compliance*. Auerbach Publications Taylor & Francis Group. ISBN 08493-70876

Blackley, J. A., Peltier, J., & Peltier, T. (2003) *Information Security Fundamentals, 1<sup>st</sup> Edition.* Boca Raton, FL. Auerbach Publications. ISBN: 0849319579/9780849319570

**Reference:** American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6<sup>th</sup> edition). Washington, DC: Author. ISBN: 1-4338-0561-8

## **Web-based Readings**

http://www.sans.org/rr/

http://www.sans.org/resources/policies/

http://www.cert.org/

#### **Software Requirements**

- Microsoft Office (MS Word, MS Excel, MS PowerPoint)
- Adobe Acrobat Reader (Click here for free download)

## **Evaluation Procedures**

The grading will be based on homework assignments, Forum postings, an open book final examination, and 3 research papers.

1. There will be eight homework assignments. The assignments and exercise will count as 20% of the final grade. The homework assignments will follow each of the major portions of the course.

These assignments will be problems or questions from the text. They are selected to provide the student with information to understand the concepts discussed. Assignments should be prepared in Microsoft Word or an equivalent word processor program and uploaded into the student folder by the due date.

- 2. There will be four Forum postings you will need to respond to. Answers should be a paragraph with a topic sentence that <u>restates the question</u> and <u>supporting sentences</u> using the terms, concepts, and theories from the required readings. Each answer should be a <u>minimum of 100 words</u> (about 6 or 7 sentences) with <u>APA format citations</u>. You may <u>attack</u>, <u>support</u> or <u>supplement</u> other students' answers using the terms, concepts and theories from the required readings. All responses should be a <u>courteous paragraph</u> that contains a <u>topic sentence</u> with good <u>supporting sentences</u>. You may respond multiple times with a continuous discussion with points and counter points. The key requirement is to express your idea and then <u>support your position</u> using the terms, concepts and theories from the required readings to demonstrate to me that you understand the material. The Forum postings will count as 20% of the final grade.
- **3. Idea Paper:** There will be one individual idea paper throughout the session, worth 12.5%. The content for the project paper is listed under the Course Outline of your syllabus.
- **4. Research Paper:** There will be one individual project paper throughout the session, worth 12.5%. The content for the project paper is listed under the Course Outline of your syllabus.
- **5. Reflections Paper:** There will be one individual reflections paper throughout the session, worth 15%. The content for the project paper is listed under the Course Outline of your syllabus.

Grade Instruments	Points Possible	% of Final Grade
Homework Assignments (8 – 5 points each)	40	40%
Forum Postings (4 – 5 points each)	20	20%
Paper 1 – Idea Paper	12.5	12.5%
Paper 2 – Research Paper	12.5	12.5%
Paper 3 – Reflections Paper	15	15%
TOTAL	100 Points	100%

Grading Scale <u>Table of Contents</u>

Please see the

https://mailbox.apus.edu/exchweb/bin/redir.asp?URL=http://www.apus.edu/student-handbookstudent handbook to reference the University's grading scale.

Week	Topic(s)	Reading(s)	Assignment(s)
1	- Overview - Threats to Information Security	Chapters 1-2 (Peltier text)	Download the ISSC680Week1.doc from Course Materials. Follow the download procedures at the Course Materials Instructions link in the e-Classroom instructions. Upload the assignment when complete. Forum Activity 1 - Introductions
2	- The Structure of an Information Security Program - Developing an Information Security Evaluation Process - A Security Baseline	Chapter 3 (Peltier text) Chapters 3-4 (Layton text)	Download the ISSC680Week2.doc from Course Materials. Follow the download procedures at the Course Materials Instructions link in the e-Classroom instructions. Upload the assignment when complete. Paper 1
3	<ul><li>Information Security Policies</li><li>Security Policy</li><li>Organization of Information</li><li>Security</li></ul>	Chapter 4 (Peltier text) Chapters 7-8 (Layton text)	Download the ISSC680Week3.doc from Course Materials. Follow the download procedures at the Course Materials Instructions link in the e-Classroom instructions. Upload the assignment when complete. Forum Activity 2
4	- Asset Classification - Asset Management	Chapter 5 (Peltier text) Chapter 9 (Layton text)	Download the ISSC680Week4.doc from Course Materials. Follow the download procedures at the Course Materials Instructions link in the e-Classroom instructions. Upload the assignment when complete.
5	- Access Control	Chapter 6 (Peltier text) Chapter 13 (Layton text)	Download the ISSC680Week5.doc from Course Materials. Follow the download procedures at the Course Materials Instructions link in the e-Classroom instructions. Upload the assignment when complete. Paper 2 Forum Activity 3
6	- Physical Security - Physical and Environmental Security	Chapter 7 (Peltier text) Chapter 11 (Layton text)	Download the ISSC680Week6.doc from Course Materials. Follow the download procedures at the Course Materials Instructions link in the e-Classroom instructions. Upload the assignment when complete.
7	- Risk Analysis and Risk Management - Information Security Risk Assessment Model	Chapter 8 (Peltier text) Chapters 1,15 (Layton text)	Download the ISSC680Week7.doc from Course Materials. Follow the download procedures at the Course Materials Instructions link in the e-Classroom instructions. Upload the assignment when complete. Forum Activity 4
8	- Business Continuity Planning - Business Continuity Management	Chapter 9 (Peltier text) Chapter 16 (Layton text)	Download the ISSC680Week8.doc from Course Materials. Follow the download procedures at the Course Materials Instructions link in the e-Classroom instructions. Upload the assignment when complete. Paper 3

Policies Table of Contents

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

Drop/Withdrawal Policy Plagiarism Policy Extension Process and Policy

#### WRITING EXPECTATIONS

All written submissions should be submitted in a font and page set-up that is readable and neat. It is recommended that students try to adhere to a consistent format, which is described below.

- Typewritten in double-spaced format with a readable style and font and submitted inside the
  electronic classroom (unless classroom access is not possible and other arrangements have
  been approved by the professor).
- Arial 11 or 12-point font or Times New Roman styles.
- Page margins Top, Bottom, Left Side and Right Side = 1 inch, with reasonable accommodation being made for special situations and online submission variances.

#### CITATION AND REFERENCE STYLE

Assignments completed in a narrative essay or composition format must follow APA guidelines. This course will require students to use the citation and reference style established by the American Psychological Association (APA), in which case students should follow the guidelines set forth in *Publication Manual of the American Psychological Association* (6<sup>th</sup> ed.). (2010). Washington, D.C.: American Psychological Association.

#### 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.

## **DISCLAIMER STATEMENT**

Course content may vary from the outline to meet the needs of this particular group.

Academic Services TOC

## **ONLINE LIBRARY RESEARCH CENTER & LEARNING RESOURCES**

The Online Library Resource Center 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 Center provides access to special learning resources, which the University has contracted to assist with your studies. Questions can be directed to orc@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.

- Turnitin.com is a tool to improve student research skills that also detect plagiarism. Turnitin.com provides resources on developing topics and assignments that encourage and guide students in producing papers that are intellectually honest, original in thought, and clear in expression. This tool helps ensure a culture of adherence to the University's standards for intellectual honesty. Turnitin.com also reviews students' papers for matches with Internet materials and with thousands of student papers in its database, and returns an Originality Report to instructors and/or students.
- **Smarthinking:** Students have access to 10 free hours of tutoring service per year through <a href="Smarthinking">Smarthinking</a>. Tutoring is available in the following subjects: math (basic math through advanced calculus), science (biology, chemistry, and physics), accounting, statistics, economics, Spanish, writing, grammar, and more. Additional information is located in the Online Research Center. From the ORC home page, click on either the "Writing Center" or "Tutoring Center" and then click "Smarthinking." All login information is available..
- Peer-reviewed Sources: Students are expected to become familiar with the use of peer-review articles/journals. Peer review (also known as refereeing) is the process of subjecting an author's work, research, or ideas to the scrutiny of others who are experts in the same field. Pragmatically, peer review refers to the work done during the screening of submitted manuscripts and funding applications. This process encourages authors to meet the accepted standards of their discipline and prevents the dissemination of irrelevant findings, unwarranted claims, unacceptable interpretations, and personal views. Publications that have not undergone peer review are likely to be regarded with suspicion by scholars and professionals.

Webliography Table of Contents

- 1. ACM digital library: http://portal.acm.org/dl.cfm
- 2. Google Scholar : <a href="http://scholar.google.com/">http://scholar.google.com/</a>
- 3. IEEE digital library: http://www.computer.org/portal/web/csdl/home

## Appendix A – Grading Rubric

All written assignments will be assessed according to this rubric. Note that a score of 0 may be assigned in any category where your work does not meet the criteria for the beginning level.

APUS Assignment Rubric Graduate Level 600+	EXEMPLARY LEVEL 4	ACCOMPLISHED LEVEL 3	DEVELOPING LEVEL 2	BEGINNNIG LEVEL 1	TOTAL POINTS
FOCUS/THESIS	Student exhibits a defined and clear understanding of the assignment. Thesis is clearly defined and well constructed to help guide the reader throughout the assignment. Student builds upon the thesis of the assignment with well-documented and exceptional supporting facts, figures, and/or statements.	Establishes a good comprehension of topic and in the building of the thesis. Student demonstrates an effective presentation of thesis, with most support statements helping to support the key focus of assignment.	Student exhibits a basic understanding of the intended assignment, but the thesis is not fully supported throughout the assignment. While thesis helps to guide the development of the assignment, the reader may have some difficulty in seeing linkages between thoughts. While student has included a few supporting facts and statements, this has limited the quality of the assignment.	Exhibits a limited understanding of the assignment. Reader is unable to follow the logic used for the thesis and development of key themes. Introduction of thesis is not clearly evident, and reader must look deeper to discover the focus of the writer. Student's writing is weak in the inclusion of supporting facts or statements.	10
CONTENT/SUBJECT KNOWLEDGE	Student demonstrates proficient command of the subject matter in the assignment. Assignment shows an impressive level of depth of student's ability to relate course content to practical examples and applications. Student provides comprehensive analysis of details, facts, and concepts in a logical sequence.	Student exhibits above average usage of subject matter in assignment. Student provides above average ability in relating course content in examples given. Details and facts presented provide an adequate presentation of student's current level of subject matter knowledge.	The assignment reveals that the student has a general, fundamental understanding of the course material. Whereas, there are areas of some concerning in the linkages provided between facts and supporting statements. Student generally explains concepts, but only meets the minimum requirements in this area.	Student tries to explain some concepts, but overlooks critical details. Assignment appears vague or incomplete in various segments. Student presents concepts in isolation, and does not perceive to have a logical sequencing of ideas.	20
CRITICAL THINKING SKILLS	Student demonstrates a higher- level of critical thinking necessary for 300-400 level work. Learner provides a strategic approach in presenting	Student exhibits a good command of critical thinking skills in the presentation of material and supporting statements. Assignment	Student takes a common, conventional approach in guiding the reader through various linkages and connections presented in	Student demonstrates beginning understanding of key concepts, but overlooks critical details. Learner is unable to apply information in	20

APUS Assignment Rubric Graduate Level 600+	EXEMPLARY LEVEL 4	ACCOMPLISHED LEVEL 3	DEVELOPING LEVEL 2	BEGINNNIG LEVEL 1	TOTAL POINTS
	examples of problem solving or critical thinking, while drawing logical conclusions which are not immediately obvious. Student provides well-supported ideas and reflection with a variety of current and/or world views in the assignment. Student presents a genuine intellectual development of ideas throughout assignment.	demonstrates the student's above average use of relating concepts by using a variety of factors. Overall, student provides adequate conclusions, with 2 or fewer errors.	assignment. However, student presents a limited perspective on key concepts throughout assignment. Student appears to have problems applying information in a problem-solving manner.	a problem-solving fashion. Student presents confusing statements and facts in assignment. No evidence or little semblance of critical thinking skills.	
ORGANIZATION OF IDEAS/FORMAT	Student thoroughly understands and excels in explaining all major points. An original, unique, and/or imaginative approach to overall ideas, concepts, and findings is presented. Overall format of assignment includes an appropriate introduction (or abstract), well- developed paragraphs, and conclusion. Finished assignment demonstrates student's ability to plan and organize research in a logical sequence. Student uses at least of 5-7 references in assignment.	Student explains the majority of points and concepts in the assignment. Learner demonstrates a good skill level in formatting and organizing material in assignment. Student presents an above average level of preparedness, with a few formatting errors. Assignment contains less than 5 resources.	Learner applies some points and concepts incorrectly. Student uses a variety of formatting styles, with some inconsistencies throughout the paper. Assignment does not have a continuous pattern of logical sequencing. Student uses less than 3 sources or references.	Assignment reveals formatting errors and a lack of organization. Student presents an incomplete attempt to provide linkages or explanation of key terms. The lack of appropriate references or source materials demonstrates the student's need for additional help or training in this area. Student needs to review and revise the assignment.	20
WRITING CONVENTIONS (GRAMMAR & MECHANICS)	Student demonstrates an excellent command of grammar, as well as presents research in a clear and concise writing style. Presents a thorough, extensive understanding of word usage. Student excels in the selection and development of a well-planned research assignment. Assignment is error-free and reflects student's ability to prepare a high-quality academic assignment.	Student provides an effective display of good writing and grammar. Assignment reflects student's ability to select appropriate word usage and present an above average presentation of a given topic or issue.  Assignment appears to be well written with no more than 3-5 errors. Student provides a final written product that covers the above-minimal requirements.	Assignment reflects basic writing and grammar, but more than 5 errors. Key terms and concepts are somewhat vague and not completely explained by student. Student uses a basic vocabulary in assignment. Student's writing ability is average, but demonstrates a basic understanding of the subject matter.	Topics, concepts, and ideas are not coherently discussed or expressed in assignments. Student's writing style is weak and needs improvement, along with numerous proofreading errors. Assignment lacks clarity, consistency, and correctness. Student needs to review and revise assignment.	20

APUS Assignment Rubric Graduate Level 600+	EXEMPLARY LEVEL 4	ACCOMPLISHED LEVEL 3	DEVELOPING LEVEL 2	BEGINNNIG LEVEL 1	TOTAL POINTS
USE OF COMPUTER TECHNOLOGY/ APPLICATIONS	Student provides a high-caliber, formatted assignment. Learner exhibits excellent use of computer technology in the development of assignment. Quality and appropriateness of stated references demonstrate the student's ability to use technology to conduct applicable research. Given assignment includes appropriate word processing, spreadsheet and/or other computer applications as part of the final product.	Assignment presents an above-average use of formatting skills, with less than 3 errors. Students has a good command of computer applications to format information and/or figures in an appropriate format. Student uses at least two types of computer applications to produce a quality assignment.	Student demonstrates a basic knowledge of computer applications. Appearance of final assignment demonstrates the student's limited ability to format and present data. Resources used in assignment are limited. Student may need to obtain further help in the use of computer applications and Internet research.	Student needs to develop better formatting skills. The student may need to take additional training or obtain help from the Educator Help Desk while preparing an assignment. Research and resources presented in the assignment are limited. Student needs to expand research scope. The number of formatting errors is not acceptable.	10
TOTAL POINTS					100