

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

American Public University System

The Ultimate Advantage is an Educated Mind

School of Science and Technology
Department of Information Technology
ISSC363: IT Security: Risk Management
3 Credit Hours
8 Week Course
Prerequisite(s): None

Table of Contents

Instructor Information	Evaluation Procedures
Course Description	Grading Scale
Course Scope	Course Outline
Course Objectives	Policies
Course Delivery Method	Academic Services
Resources	Selected Bibliography

Instructor Information

Instructor: [\(Bio\)](#)
Email:
Phone:

[Table of Contents](#)

Course Description (Catalog)

This course explores Networking Security from the perspective of risk management and confirms that assessment of IP based Network systems is critical to developing strategies to mitigate and manage risks. This course focuses on effective assessment strategies that ultimately help the student to implement effective and proactive risk mitigation measures and risk management practices. It exposes the vulnerabilities of TCP/IP; and appraises risk assessment, risk analysis, risk mitigation, risk management, networking components and Virtual Private Networks (VPN). This course examines the tools and techniques used to attack, test and assure the security of the remote information, maintenance, FTP, database, email, UNIX RPC, and IP VPN services. The student will apply this knowledge to develop an assessment methodology that identifies, attacks, and penetrates IP based network systems.

[Table of Contents](#)

Course Scope

This course will teach you how to build an efficient testing model that can be refined and reused to create proactive defensive strategies to protect your networked systems from past, present, and future threats.

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

This will be done by grouping and analyzing offensive technologies at a higher level from both an offensive and defensive standpoint. As you progress through the course, you will realize that vulnerabilities and exposures in most environments are due to poor system management, patches not installed in a timely fashion, weak password policy, poor access control, and a host of other commonly overlooked issues. This course will examine several areas that usually suffer the most neglect and as a consequence are responsible for many of the weaknesses exploited by people attempting to penetrate your networked systems. Some of the key areas that will be covered are system software configuration, application software configuration, software maintenance, and user management and administration.

[Table of Contents](#)

Course Objectives

The successful student will fulfill the following learning objectives:

1. Discuss the role of IP-Based Network Security assessment in the world of Information Technology Management.
2. Establish the need for and identify the benefits of network security assessment; with a focus on network security assessment as a process rather than a product.
3. Explain the process for assessing network security; and evaluate the components of a network security assessment methodology; analyze the key tools used by network security professionals and seasoned hackers to perform an IP-based network security assessment.
4. Analyze methods, tools, and techniques used for network enumeration; discuss the various methods of IP network scanning; and compare the capabilities of the various IP network scanning tools in the marketplace.
5. Assess the tools and techniques used to execute information leak attacks, and the tools and techniques to test and assure the security of the remote information services and remote maintenance services
6. Discuss the tools and techniques used to attack, test and assure the security of the remote maintenance, FTP, database, email, UNIX RPC, and IP VPN services.
7. Compare the configuration, functionality, and risks of filtering and security systems such as firewalls, border routers, switches, and ids sensors; assess the various types of application-level vulnerabilities exploited by hackers; analyze the corresponding risk mitigation strategies and techniques.
8. Develop an assessment methodology that identifies, attacks, and penetrates IP based network systems.

[Table of Contents](#)

Course Delivery Method

This B.A. in Information Technology Management course delivered via distance learning will enable students to complete academic work in a flexible manner, completely online. Resources and access to an online learning management system will be made available to each student.

Online assignments are due by the last day of each week (Sunday @ 11:55 PM) 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.

[Table of Contents](#)

Resources

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

Required Text: Gibson, D. (2010). *Managing Risk in Information Systems*. Sudbury, MA. Jones & Bartlett Learning. ISBN-13: 978-0-7637-9187-2 ISBN-10: 0763791873

Lab Manual : (2010). *Student Lab Manual: Managing Risk in Information Systems*, Sudbury, MA. Jones & Bartlett Learning. ISBN: 1449638481

Web-Based Readings

<http://www.sans.org/rr/>
<http://www.sans.org/resources/policies/>
<http://www.cert.org/>
www.informationweek.com
www.internetworld.com

Software Requirements

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

[Table of Contents](#)

Evaluation Procedures

The grading will be based on graded assignments, Forum postings, labs, quizzes, and case studies.

1. There are eight assignments for the course. The assignments count as 30% of the final grade. The assignments will follow each of the major portions of the course. These assignments are questions from the text. They are selected to demonstrate mastery of concepts discussed during the course. Assignments should be prepared in Microsoft Word or an equivalent word processor program and uploaded onto the assignments' area by the due date.
2. There are four Forum postings. There will be **four forums**. Answers should restate the question with supporting sentences using the terms, concepts, and theories from the required readings. The key requirement is to express your idea and then support your position to demonstrate that you understand the material. Your answer should be a **minimum of 250 words; unless otherwise noted**. Please see Appendix A for the grading rubric on all written assignments. **In addition**, you are to **respond** to at least **two** of your classmates' postings by critiquing, supporting or supplementing the other students' answers. Your responses should be **at least 150 words long**. All responses should be courteous with sound supporting sentences. The key requirement is to express your idea and then **support your position** using the terms, concepts and theories from the required readings to demonstrate that you understand the material. You may respond multiple times within a continuous discussion with points and counter points. **Duplicate responses will not receive credit.** The Forums count as 20% of the final grade.
3. Two quizzes with multiple choice and true/false questions are open book and open notes. The quizzes count as 10% of your final grade.
4. There is a Case Study; with three phases – counts as 10% of your final grade.
5. Lab Work: The labs are hands-on additional exercises to reinforce the material covered in the weekly objectives. Counts as 30% of your grade.

Grade Instruments	Points Possible	Approx. % of Final Grade
Assignment Weeks 1,2, 3, 4, 5, 6, 7, 8	30 total (8 Assignments)	30%
Forum Weeks 1, 3, 5, 7	5 each (4 Forums)	20%
Labs Weeks 2, 5, 7	10 each (3 Labs)	30%
Quizzes Weeks 2, 4	5 each	10%

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

Case Study Weeks 4,6,8	10 (3 Phases)	10%
TOTAL	100	100%

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

Rubric for Learner Post (Assign point value in Grade Builder)

Synthesis of concepts	Applications of personal experience	Clear citations	Writing standards	Response to Another Learner	Timeliness
The response refers to Resources and shows a clear understanding of main ideas and concepts. There are no irrelevant comments and the information is on point. Ideas are clearly and properly organized.	The response provides personal examples that tie in with the Resource being discussed. Reflection is evident and clearly ties in with the material presented. Insight was provided to some concept.	The response made proper reference to the course text or to other materials that were referenced or referred to in the discussion. Opinions were also included and were valid.	The writing is grammatically correct, clear and concise. The response is well formulated and easy to read and understand. Correct terminology was used when needed.	The other learner's ideas, questions, concerns were addressed. The response referenced reading or lecture materials when needed. The response addressed the learner's feelings if needed. There were no irrelevant or off-point comments. The posting reflects a clear understanding of the other learner's ideas.	The posting was "not" submitted on time.
20%	20%	20%	20%	20%	20%(deduction) Optional

[Table of Contents](#)

Grading Scale

Please see the [student handbook](#) to reference the University's [grading scale](#)

Course Outline

<u>Week</u>	<u>Topic(s)</u>	<u>Learning Objectives</u>	<u>Readings</u>	<u>Assignment(s)</u>
1	Risk Management Fundamentals: Threats, Vulnerabilities, and Exploits	1, 2, 3, 4, 5, 6	Managing Risk in Information Systems: Read Chapters 1-2	Week 1 Assignment Week 1 Forum & Intro
2	Risk Compliance & Planning Lab	1, 4, 5, 6, 7, 8	Managing Risk in Information Systems Read Chapter 3-4 Lab Manual	Week 2 Assignment Quiz 1 Lab 1
3	Security Risk Assessment Definition & Performance	1, 2, 3, 4, 5, 6	Managing Risk in Information Systems: Read Chapters 5-6	Week 3 Assignment Week 3 Forum
4	Asset Identification & Analysis of Threats, Vulnerabilities & Exploits	4, 5, 6, 7	Managing Risk in Information Systems Read Chapter 7-8	Week 4 Assignment Case Study Phase 1 Quiz 2
5	Risk Mitigation Security Control & Planning Lab	1, 2, 3, 4, 5, 6	Managing Risk in Information Systems Read Chapter 9-10 Lab Manual	Week 5 Assignment Week 5 Forum Lab 2
6	Security Risk Mitigation Security Risk Assessment & Mitigation Planning	6, 7, 8	Managing Risk in Information Systems Read Chapter 11	Week 6 Assignment Case Study Phase 2
7	Security Risk Mitigation Business Impact Analysis & Continuity Plan Lab	2, 7	Managing Risk in Information Systems: Read Chapters 11-13 Lab Manual	Week 7 Assignment Week 7 Forum Lab 3
8	Security Risk Mitigation Disaster Recovery Plan & Computer		Managing Risk in Information Systems	Week 8 Assignment Case Study Phase 3

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

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](#)

WRITING EXPECTATIONS

All written submissions should be submitted in APA Format. They should use 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.
- APA Formatted Title Page and References Page
- Document Headers and Page Numbers per APA format

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* (6th ed.). (2010). Washington, D.C.: American Psychological Association.

LATE ASSIGNMENTS

A late penalty applies to any task that is submitted late for which partial credit is still available. Make sure that you are familiar with the late policy as defined in the classroom as late Forum tasks, any part, are not accepted after the 11:55 PM ET deadline on Sunday each week. Any task submitted 6+ days late is not accepted for grading.

It is the student's responsibility to notify the instructor when a late task has been submitted for grading.

You are aware of all tasks and due dates at the beginning of the course so try to plan accordingly. Keep in mind that the session passes quickly so getting behind on one or a few assignments can significantly affect your progress in the course and your academic success. If unusual life circumstances become apparent, contact me (or have your advisor contact me) as soon as possible so we can determine how to address the matter.

Forums: These are designed for student participation and engagement, so it is critical that you contribute in a timely manner. Treat discussion boards as classroom conversations. If you do not post anything within the allotted time, then nobody else can join your discussion. Due to this conversational nature of

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

discussion boards, response posts to classmates will not be accepted late. Only the main posting will be accepted late, and the standard individual project late penalty will be applied.

Forums are split up into two parts. You should try to post your main response by Wednesday and then any replies to other students' postings by Sunday deadline.

Assignments/ Case Study / Labs: If you submit an Assignment after its due date, late penalties will apply. Again, submissions more than one week late will not be accepted.

Late Penalty Scale:

1 day late: 10% penalty

2-6 days late: 20% penalty

6+ days late: assignments more than a week late will not be accepted

Academic Services

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:** 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 Smarthinking. 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.

[Table of Contents](#)

Selected Bibliography

Compinfo.ws. (1995). LANs (Local Area Networks – a CompInfo Directory. Retrieved from <http://www.compinfo-center.com/netw/lans.htm>

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

Curt White, (2002) *Data Communications and Computer Networks: A Business Users Approach*, Second Edition. Boston, Massachusetts: Course Technology. ISBN 0-619-06464-1.

Feig, R. (2002). The OSI Reference Model. Retrieved from <http://www2.rad.com/networks/1994/osi/intro.htm>

ISSA. (2008). International systems security association home page. Retrieved October 28, 2008, from <http://www.issa.org/>.

Ostmo, C. (2000). Everything You Ever Wanted to Know About Modems... Retrieved from <http://modems.rosenet.net/>

SANS. (2008). Infosec reading room. Retrieved October 28, 2008, from <http://www.sans.org/rr/>.

Schnieder, K. Dr. (2003). Fiber Optic Data Communications for the Premises Environment. Retrieved from <http://www.telebyteusa.com/foprimer/foprimer.htm>

TechTarget. (2008). Information security magazine. Retrieved October 28, 2008, from <http://informationsecurity.techtarget.com/>.

[Table of Contents](#)

Appendix A – Grading Rubric

Unless otherwise noted in the Assignment description, 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 Undergraduate Level 300-400	EXEMPLARY LEVEL 4	ACCOMPLISHED LEVEL 3	DEVELOPING LEVEL 2	BEGINNING 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 Resource. Whereas, there are areas of some concern 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 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.	Student exhibits a good command of critical thinking skills in the presentation of material and supporting statements. 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.	Student takes a common, conventional approach in guiding the reader through various linkages and connections presented in assignment. However, student presents a limited perspective on key concepts throughout assignment. Student appears to have problems applying information in a problem-solving manner.	Student demonstrates beginning understanding of key concepts, but overlooks critical details. Learner is unable to apply information in a problem-solving fashion. Student presents confusing statements and facts in assignment. No evidence or little semblance of critical thinking skills.	20
ORGANIZATION	Student thoroughly understands	Student explains the majority of	Learner applies some points and	Assignment reveals formatting	20

OF IDEAS/FORMAT	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.	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.	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.	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.	
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
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