American Public University System

The Ultimate Advantage is an Educated Mind

School of Security and Global Studies
INTL440 Cyber Warfare
Credit Hours: 3
Length of Course: 8 Weeks
Prerequisite: NONE

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Course Description (Catalog)

This course provides an overview of cyber warfare and the potential impact of its use by military, terrorist, and criminal organizations. By studying the operation of computer networks, the student will gain an appreciation of how they have both benefited society and made portions of its infrastructure more vulnerable. An overview of cyber weaponry will be presented, and various offensive and defensive strategies will be examined via case studies.

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Course Scope

As a 400-level course, this course provides a higher level of knowledge building on the material taught at the 300 level. The purpose and scope of
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This course is to enable the student to build a deeper understanding of the discipline.

**Course Objectives**

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

CO-1: Analyze cyberspace and cyber warfare.
CO-2: Diagram basic computer network operations.
CO-3: Compare selected cyber weapons and their associated attack strategies.
CO-4: Examine defensive strategies for securing networks.
CO-5: Evaluate cyber war capabilities of selected nations.

**Course Delivery Method**

This course, delivered via distance learning, will enable students to complete academic work in a flexible manner, completely online. Course resources 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 and include all written assignments, examinations, and research papers submitted for grading. Weekly Forum questions (accomplished in groups in a Forum) require an initial response by Thursday at 11:55 pm ET, with all other required responses due by Sunday at 11:55 pm ET. The assigned faculty will support the students throughout this eight-week course.

**Course Resources**

Required Course Textbook:


- External websites and other assigned reading found in the Lessons area of the classroom.
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- Weekly Lesson Notes and videos or audio files are found in the Lessons area of the classroom.

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Evaluation Procedures

**Forum discussions – 25 percent**
Each week, a discussion question 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 and respond to 2 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.

**Midterm assignment - 25 percent**
This assignment is a take-home essay assignment of 2 questions, 3 pages each, to test knowledge and assimilation of the course objectives. The exclusive use of required texts and readings from this course is mandatory.

**Progress assignment - 25 percent**
Specialized Exercise. 8-10 pages including research and analysis.

**Final assignment – 25 percent**
This assignment is a take-home essay assignment of 2 questions, 3 pages each, to test knowledge and assimilation of the course objectives. The exclusive use of required texts and readings from this course is mandatory.

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8 – Week Course Outline

Week 1: What is Cyber Warfare

Learning Outcomes:
CO-1: Analyze cyberspace and cyber warfare

Assignments: Complete all required forums.

Required Readings:


Recommended Optional Readings:


Symantec http://www.symantec.com/


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Week 2: Potential Targets

Learning Outcomes:
CO-1: Analyze cyberspace and cyber warfare

Assignments: Complete all required forums.

Required Readings:


Week 3: Cyber Weapons

Learning Outcomes:
CO-2: Diagram basic computer network operations.
CO-3: Compare selected cyber weapons and their associated attack strategies.

Assignments: Complete all required forums and progress assessment.

Required Readings:

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Recommended Optional Readings:


Week 4: Cyber Tactics

Learning Outcomes:
CO3: Compare selected cyber weapons and their associated attack strategies.

Assignments: Complete all required forums.

Required Readings:


Week 5: Cyber Defense

Learning Outcomes:
CO4: Examine defensive strategies for securing networks.

Assignments: Complete all required forums and the midterm assessment.

Required Readings:
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Recommended Optional Readings:


Week 6: Case Studies I

Learning Outcomes:
CO5: Evaluate cyber war capabilities of selected nations.

Assignments: Complete all required forums.

Required Readings:


Thomas, Timothy L. 2010. “Google Confronts China’s ’Three Warfares.’” Parameters. (Summer).


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Recommended Optional Readings:


Week 7: Case Studies II

Learning Outcomes:
CO5: Evaluate cyber war capabilities of selected nations.

Assignments: Complete all required forums.

Required Readings:


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Recommended Optional Readings:


**Week 8: Future of Cyber Warfare, Course Reflection and Review**

**Learning Outcomes:**
CO-1: Analyze cyberspace and cyber warfare.
CO-2: Diagram basic computer network operations.
CO-3: Compare selected cyber weapons and their associated attack strategies.
CO-4: Examine defensive strategies for securing networks.
CO-5: Evaluate cyber war capabilities of selected nations.

**Assignments:** Complete all required forums and the final assessment.

**Required Readings:**

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 Turabian/Chicago Style as the sole citation and reference style used in written work submitted as part of coursework to the University. See [http://www.apus.edu/Online-Library/tutorials/chicago.htm](http://www.apus.edu/Online-Library/tutorials/chicago.htm).

**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.

**Deductions:**

- **Late forum posts can be penalized up to 5 points per day**
- **Late assignments can be penalized up to 5 points per day**

**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: ;-) , : ), 😊

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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**  

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.
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