

Cybersecurity Communications CSSS-5110

SU 2021 Section HH 3 Credits 05/31/2021 to 07/30/2021 Modified 05/19/2021

Meeting Times

Online Lecture

Tuesdays, 6:00-10:00pm Eastern
Zoom Meeting

Class will be held via Zoom – the links will be posted in the course shell in WorldClassroom.

NOTE: ALL NCR courses begin at 6:00 pm ET* – sometimes even after reviewing will default back to central time reviewing) the time reverts to a different time zone.

*CT: 5 pm, MT: 4 pm, PT: 3 pm - course start time

Contact Information

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Office hours: by appointment

Description

Digital communications has grown rapidly and provides increased opportunities to: access information; share and disseminate knowledge; create new innovative services; and compete in a global environment. It presents new opportunities and a growing threat posed by a connected society that can impact critical United States interests. This course will examine the basics of communication systems, the ISO Layer Model, topologies such as Local-Area-Networks (LANs), Wide-Area-Networks (WANs), World Wide Web and the Internet, space-based communications used by Department of Defense (DoD) and commercial entities, fiber-optics, as well as the rapidly developing personal mobile communication technologies such as Wireless Local Area Network (WiFi).

Outcomes

The student will:

- Summarize and demonstrate an understanding of the vocabulary of cybersecurity systems terms and phraseology.
- Acquire and differentiate a broad understanding of the cybersecurity communications environment including communication system architectures, the ISO layer model, network types and topologies, computer and network security, threats, vulnerabilities, types of attacks, hostile scripts, assessment, analysis and assurance, disaster prevention, response and recovery, access control and authorization, cryptography, firewalls, intrusion detection and prevention, computer and network forensics, security protocols, wireless networks and devices.
- Demonstrate and differentiate a basic working knowledge of cybersecurity communication systems awareness of current and growing threats.
- Describe the roles, responsibilities, and tools of a cybersecurity system technician, project and/or program manager.
- Inventory and analyze the basic knowledge of critical cybersecurity communications infrastructures and potential threats and impacts.
- Summarize and discuss an understanding of the basics of the Comprehensive National Cybersecurity Initiative (CNCI).
- Differentiate the scope of the evolving environment of cybersecurity communications international law, national law enforcement, and organizational security measures and counter measures.
- Classify future trends in cybersecurity communication issues facing public and private enterprises.
- Produce graduate level research papers and practice oral presentation methods.
- Demonstrate an understanding and proper application of APA as it is applied to professional writing.

- Demonstrate skills in the use of common graduate program technologies – PowerPoint, Internet Research (Wikipedia is not considered a valid source), Library Resources, e-Reserves, Concourse, Connections and Turnitin.
- Categorize the challenges of the Cybersecurity (MS) program and the importance of thinking about the capstone course in terms of their research focus or projects.
- Synthesize and integrate the learning experiences acquired throughout the MS in Cybersecurity program, apply critical thinking and evaluation methods of current and future topics relative to this major.

Required Textbook

Guide to Computer Network Security

Author: Kizza

Publisher: Springer London

Edition: 5th

ISBN: 978-3030381400

Materials

Textbook title and ISBN posted here:

<http://www.bkstr.com/websteronlinestore/home>

Start here - follow drop down menus

Deliverables

Research Paper:

Research paper should follow APA stylebook format and be double-spaced. Good technical writing is concise, is void of colloquialisms, is nonsexist, and is generally written in the third-person. Pay particular attention to the way you use headings and subheadings to clarify the organization of your paper. Research Paper will be not less than 10 pages excluding references, tables, and appendixes. Abstract can count as one of the pages. See APA Form and Style manual for additional guidance on format. 5 sources minimum, and 1 has to be from a book, not an online reference.

Exams:

A midterm and final exam will be administered.

Evaluation

Breakdown

Grade	Range	Notes

Grade	Range	Notes
		<p>Grades for this course are based on a straight grade percentage. No curves or rounding will be used. Your course grade will be based on your scores on your midterm and final examination, article, paper, and your contributions to the class discussions. These different components will be weighted as follows:</p> <p>Class Participation (10%) Students will be evaluated on their positive contribution to the overall class learning experience. At minimum, students are expected to: Ask questions and constructively contribute to topics being discussed during class, as appropriate. Avoid disruptive behavior (i.e. cell phones off, maintain constructive and courteous interaction with instructor and fellow students).</p> <p>Research Paper (35%) Each student will be required to write and present an original paper addressing an information security topic of interest and value to a specified organization. Grading for this category is decomposed into the following milestones due on the corresponding class sessions. Class 3 – Selected Topic and Thesis Statement worth 5%. Class 8 – Final Research Paper worth 30%.</p> <p>Article (15%) Class 3 – Students will turn in and present (limited to 2 minutes) summaries from recent news or journal articles 1-2 pages long in APA style describing the new cybersecurity communication opportunities and growing threats.</p> <p>Exams (40%) The Mid Term Exam will be worth 15% The Final Exam will be worth 25%. The GRADUATE catalog provides these guidelines and grading options: A/A– Superior graduate work B+/B/B– Satisfactory graduate work C Work that is barely adequate as graduate-level performance CR Work that is performed as satisfactory graduate work (B– or better). A grade of "CR" is reserved for courses designated by a department, involving internships, a thesis, practicums, or specified courses. F Work that is unsatisfactory I Incomplete work ZF An incomplete which was not completed within one year of the end of the course. ZF is treated the same as an F or NC for all cases involving G.P.A., academic warning, probation, and dismissal. IP In progress NR Not reported W Withdrawn from the course</p> <p>GRADING SCALE: 100-95 A 94-90 A- 89-86 B+ 85-83 B 82-80 B- 79-76 C+ 75-73 C 72-70 C-</p>

Schedule

When	Topic	Notes

When	Topic	Notes
Zoom/WorldClassroom	Cybersecurity Communications	<p>Lecture Week 1: First Class Meeting, Introductions, Instructor and Student Expectations, course requirements and the course syllabus, Course Book, latest edition. Chapter 1: Computer Network Fundamentals, Chapter 2: Computer Network Security Fundamentals. (Read Prior to Class). Discussion about Cybersecurity Communication Topics</p> <p>Lecture Week 2: Chapters 3: Security Threats and Threat Motives. Chapter 4: Intro to Computer Network Vulnerabilities. (Read Prior to Class). Discuss the xx in class.</p> <p>Lecture Week 3: Chapter 5: Cybercrimes and Hackers. Chapter 6: Scripting and Security (Read Prior to Class). Present article in class (2 Minutes) Submit article no later than midnight. Be prepared to read your article's abstract out loud in class. Go over turnitin tool for turning in papers. Selected Topic and Thesis Statement for Research Paper is due.</p> <p>Lecture Week 4: Chapter 7: Security Assessment, Analysis, and Assurance. Chapter 8: Disaster Management (Read Prior to Class). Midterm Test Prep</p> <p>Lecture Week 5: Chapter 9: Access Control and Authorization. Chapter 10: Authentication. Chapter 11: Cryptography. (Read Prior to Class). Mid Term Exam – Covers topics from weeks 1-4. <i>Midterm will be the second half of the class, Midterm is open book and open notes.</i></p> <p>Lecture Week 6: Chapter 12: Firewalls. Chapter 13: System Intrusion Detection and Prevention (Read Prior to Class).</p> <p>Lecture Week 7: Chapter 14: Computer and Network Forensics. Chapter 17: Computer Network Security Protocols. (Read Prior to Class).</p> <p>Lecture Week 8: Chapter 18: Security in Wireless. Chapter 21: Virtualization Technology and Security. (Read Prior to Class). Submit research paper Final Exam Prep Final Course Evaluations</p> <p>Lecture Week 9: Comprehensive Final Exam</p> <p>Online Evaluation: https://evaluation.webster.edu available weeks 8 & 9. Also posted in WorldClassroom as well.</p>

* Course Policies

Originality and Plagiarism:

All Turnitin assignments over 10% will be reviewed which may result in a reduced or incomplete grade.

Please ensure you submit work that is your own, and that any sources used are credible and clearly cited.

Late Assignments:

Assignments will be accepted up to one week past the due date with a 10% grade deduction. Please coordinate with me in advance if you need an extension. If an assignment is turned in within hours of the due date, it will be accepted as on time. I encourage effort toward a quality product instead of rushing to turn something in on time.

Formatting and Content:

APA formatting is the University standard and is enforced throughout this course. It is listed as a requirement on every assignment listing, and as an introductory course, this requirement is heavily enforced. As a Graduate level course, valuable content is critical. It is not enough to paraphrase entire answers; be sure to demonstrate thorough thought and understanding of the concepts. Please reference the Grading and Content guides, located in the Course Introduction module, for further details.

Please silence all cell phones during class (set to vibrate for emergency calls is acceptable). Even while meeting remotely a ringing phone can be distracting.

Institutional Policies

Academic Policies

Academic policies provide students with important rights and responsibilities. Students are expected to familiarize themselves with all academic policies that apply to them. Academic policies for undergraduate students can be found in the Undergraduate Studies Catalog; graduate students should review the Graduate Studies Catalog.

Undergraduate Studies Catalog

The Undergraduate Studies Catalog contains academic policies that apply to all undergraduate students. The *academic policies and information* section of the catalog contains important information related to **attendance, conduct, academic honesty, grades, and more**. If you are an undergraduate student, please review the catalog each academic year. The current Undergraduate Studies Catalog is at:

<http://www.webster.edu/catalog/current/undergraduate-catalog/> (<http://www.webster.edu/catalog/current/undergraduate-catalog/>).

Graduate Studies Catalog

The Graduate Studies Catalog contains academic policies that apply to all graduate students. The *academic policies* section of the catalog contains important information related to **conduct, academic honesty, grades, and more**. If you are a graduate student, please review the catalog each academic year. The current Graduate Studies Catalog is at:

<http://www.webster.edu/catalog/current/graduate-catalog/> (<http://www.webster.edu/catalog/current/graduate-catalog/>).

Grading

The Grades section of the academic catalog outlines the various grading systems courses may use, including the information about the final grade reported for this class.

Undergraduate

<http://www.webster.edu/catalog/current/undergraduate-catalog/academic-policies.html#grading>
(<http://www.webster.edu/catalog/current/undergraduate-catalog/academic-policies.html#grading>).

Graduate

<http://www.webster.edu/catalog/current/graduate-catalog/academic-policies.html#grades>
(<http://www.webster.edu/catalog/current/graduate-catalog/academic-policies.html#grades>).

Incomplete

There are important policies that govern grades of Incomplete (I), including the circumstances under which Incomplete grades are granted, deadlines for completion, and consequences should the remaining course work not be completed. It is the responsibility of a student who requests an Incomplete to ensure that he/she understands and follows the policies.

Grade Appeals

Instructors are responsible for assigning grades, and student should discuss grade issues with the instructor. Policies and procedures for appealing grades are available in the appropriate catalog.

Academic Honesty Policy

Webster University is committed to academic excellence. As part of our Statement of Ethics, we strive to preserve academic honor and integrity by repudiating all forms of academic and intellectual dishonesty, including cheating, plagiarism and all other forms of academic dishonesty. Academic dishonesty is unacceptable and is subject to a disciplinary response. Students are encouraged to talk to instructors about any questions they may have regarding how to properly credit others' work, including paraphrasing, quoting, and citation formatting. The university reserves the right to utilize electronic databases, such as Turnitin.com, to assist faculty and students with their academic work.

The University's Academic Honesty Policy is published in academic catalogs:

Undergraduate

<http://www.webster.edu/catalog/current/undergraduate-catalog/academic-policies.html>
(<http://www.webster.edu/catalog/current/undergraduate-catalog/academic-policies.html>).

Graduate

<http://www.webster.edu/catalog/current/graduate-catalog/academic-policies.html>
(<http://www.webster.edu/catalog/current/graduate-catalog/academic-policies.html>).

As a part of the University commitment to academic excellence, the Academic Resource Center provides student resources to become better acquainted with academic honesty and the tools to prevent plagiarism in its many forms:

http://www.webster.edu/arc/plagiarism_prevention/ (http://www.webster.edu/arc/plagiarism_prevention/).

Statement of Ethics

Webster University strives to be a center of academic excellence. The University makes every effort to ensure the following:

- The opportunity for students to learn and inquire freely
- The protection of intellectual freedom and the rights of professors to teach
- The advancement of knowledge through scholarly pursuits and relevant dialogue

To review Webster University's statement of ethics, see the Undergraduate Studies Catalog and the Graduate and Studies Catalog:

Undergraduate

<http://www.webster.edu/catalog/current/undergraduate-catalog/overview.html#ethics>
(<http://www.webster.edu/catalog/current/undergraduate-catalog/overview.html#ethics>).

Graduate

<http://www.webster.edu/catalog/current/graduate-catalog/ethics.html> (<http://www.webster.edu/catalog/current/graduate-catalog/ethics.html>).

Contact Hours for this Course

It is essential that all classes meet for the full instructional time as scheduled. A class cannot be shortened in length. If a class session is cancelled for any reason, the content must be covered at another time.

Important Academic Resources

Academic Accommodations

Webster University makes every effort to accommodate individuals with academic/learning, health, physical and psychological disabilities. To obtain accommodations, students must identify themselves and provide documentation from a qualified professional or agency to the appropriate campus designee or the Academic ADA Coordinator at the main campus. The Academic ADA Coordinator may be reached at 314-246-7700 or disability@webster.edu (<mailto:disability@webster.edu>).

If you have already identified as a student with a documented disability and are entitled to classroom or testing accommodations, please inform the instructor of the accommodations you will require for this class at the beginning of the course.

Academic Resource Center

Additional support and resources may be accessed through the Academic Resource Center (ARC). Support and resources include academic counseling, accommodations, assistive technology, peer tutoring, plagiarism prevention, testing center services, and writing coaching. Visit www.webster.edu/arc (<http://www.webster.edu/arc>) or Loretto Hall 40 on the main campus for more information.

Student Success Portal

Webster University's Student Success Portal, powered by Starfish, is a communications tool to connect students with faculty members and campus support services. It allows faculty and staff members to communicate with you regarding academic achievements as well as areas where support may be helpful. You may use the portal to contact faculty and staff members for assistance and to arrange meetings. Activity in the portal will be communicated to your Webster University email account. The Student Success Portal is available via your course home page in WorldClassRoom or via Connections. Learn more about the Student Success Portal at <http://www.webster.edu/success/students.html> (<http://www.webster.edu/success/students.html>).

University Library

Webster University Library is dedicated to supporting the research needs and intellectual pursuits of students throughout the University's worldwide network. Resources include print and electronic books, journal articles, online databases, DVDs and streaming video, CDs and streaming music, datasets, and other specialized information. Services include providing materials at no cost and research help for basic questions to in-depth exploration of resources. The gateway to all of these resources and services is <http://library.webster.edu> (<http://library.webster.edu>). For support navigating the library's resources, see <http://libanswers.webster.edu/> (<http://libanswers.webster.edu/>) for the many ways to contact library staff.

Drops and Withdrawals

Drop and withdrawal policies dictate processes for students who wish to unenroll from a course. Students must take proactive steps to unenroll; informing the instructor is not sufficient, nor is failing to attend. In the early days of the term or semester, students may DROP a course with no notation on their student record. After the DROP deadline, students may WITHDRAW from a course; in the case of a WITHDRAW, a grade of W appears on the student record. After the WITHDRAW deadline, students may not unenroll from a course. Policies and a calendar of deadlines for DROP and WITHDRAW are at:

Undergraduate

<http://www.webster.edu/catalog/current/undergraduate-catalog/enrollment.html>
(<http://www.webster.edu/catalog/current/undergraduate-catalog/enrollment.html>).

Graduate

<http://www.webster.edu/catalog/current/graduate-catalog/enrollment.html> (<http://www.webster.edu/catalog/current/graduate-catalog/enrollment.html>).

Academic Calendar - <http://www.webster.edu/academics/academic-calendar/> (<http://www.webster.edu/academics/academic-calendar/>).

Current tuition rates, policies, and procedures, including details of pro-rated tuition refunds, are available in the “Tuition, Fees, and Refunds” section of Webster’s Academic Catalogs:

Undergraduate

<http://www.webster.edu/catalog/current/undergraduate-catalog/tuition.html>
(<http://www.webster.edu/catalog/current/undergraduate-catalog/tuition.html>).

Graduate

<http://www.webster.edu/catalog/current/graduate-catalog/tuition.html> (<http://www.webster.edu/catalog/current/graduate-catalog/tuition.html>).

Student Handbook and Other Important Policies

Student handbook and other non-academic policies may apply to you and may impact your experience in this class. Such policies include the student code of conduct, privacy, technology and communications, and more. Please review the handbook each year and be aware of policies that apply to you. The handbook is available at:

<http://www.webster.edu/student-handbook/> (<http://www.webster.edu/student-handbook/>).

Sexual Assault, Harassment, and Other Sexual Offenses

Webster University makes every effort to educate the community to prevent sexual assault, harassment, and other sexual offenses from occurring, and is committed to providing support to those affected when this behavior does occur. To access information and resources or to review the Policy on Sexual Assault, Harassment, and Other Sexual Offenses, visit:

<http://www.webster.edu/sexual-misconduct/> (<http://www.webster.edu/sexual-misconduct/>).

Research on Human Subjects

The Webster University Institutional Review Committee (IRB) is responsible for the review of all research on human subjects. The IRB process applies to all Webster University faculty, staff, and students and must be completed prior to any contact with human subjects. For more information on the IRB, visit:

<http://www.webster.edu/irb/index.html> (<http://www.webster.edu/irb/index.html>).

Course Evaluations

At the end of this course, you will have the opportunity to provide feedback about your experience. Your input is extremely valuable to the university, your instructor, and the department that offers this course. Please provide your honest and thoughtful evaluation, as it helps the university to provide the best experience possible for all of its students.

Important Technology Information

Connections Accounts

Webster University provides all students, faculty, and staff with a University email account through Connections. Students are expected to activate their Connections account and regularly check incoming University email. Students may choose to have their University email forwarded to an alternate email address. Connections account holders can call the Help Desk (314-246-5995 or toll free at 1-866-435-7270) for assistance with this setup. Instructions are also provided on the Information Technology website at:

<http://www.webster.edu/technology/service-desk/> (<http://www.webster.edu/technology/service-desk/>).

WorldClassRoom

WorldClassRoom is Webster's Learning Content Management System (LMS). Your instructor may use WorldClassRoom to deliver important information, to hold class activities, to communicate grades and feedback, and more. WorldClassRoom is available using your Connections ID at:

<https://worldclassroom.webster.edu/> (<https://worldclassroom.webster.edu/>)

Webster Alerts

Webster Alerts is the University's preferred emergency mass notification service, available free to current students, faculty and staff at all US campuses. By registering a valid cell phone number and email address, you will receive urgent campus text, voice mail and email communications. Valuable information concerning a range of incidents affecting you - from weather-related campus closures, class delays and cancellations, to more serious or life-threatening events - are immediately and simultaneously delivered through multiple communication channels. To register for Webster Alerts, visit:

<http://www.webster.edu/technology/services/webster-alerts/> (<http://www.webster.edu/technology/services/webster-alerts/>)



Campus Information

Due to the Education Centers not re-opening in the DC region (as of yet) for this term please meet via Zoom for the summer term.

Instructors will post the meetings in WorldClassroom/Canvas for students to log in each week (added security measure). On the left side with all the hyperlinks there will be one for Zoom.

We recommend Chrome for the browser and please mute yourself when not speaking, also only you are able to unmute yourselves in Zoom. If there are many participants it also might be wise to disengage video too (or if bad weather) if low band width messages continually appear.

Webster University: Joint Base Myer/Henderson Hall:

Phone (844) 347-0568

hendersonhall@webster.edu



Additional Items

Emerson Library: library.webster.edu

There is a live chat feature - home page, contact a librarian (middle of page, middle box): Chat with a librarian on left side (might have to scroll down a bit) - accessible 24 hours a day.

The WSBT subject librarian is:

Business & Management	Mary Anne Erwin	800-985-4279	maerwin@webster.edu
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Please use these excellent resources!

Additionally in WordClassroom - on the left navigation side: Select Help (?): Other resources - here there are links to other departments including: Academic Resource Center (ARC), Writing Center, Petitions to Graduate and more.