

Enterprise Security
CIS 4312
Class Periods: Th 8-10
Location: Leigh 0207
Academic Term: Spring 2025

Instructor:

Prof. Cheryl Resch

Cheryl.resch@ufl.edu

Office Hours: M, Th 1:30-2:30 Mala 4110 or by appointment

Peer Mentor:

Hassan, Adam adamhassan@ufl.edu

Course Description

Provides an introduction to the real-world aspects of defending an enterprise network. Students will gain hands-on experience performing system security tasks and handling incidents. The class begins with a basic introduction to enterprise cybersecurity, the attack sequence, and managing cybersecurity. Then lecture, homework and lab activities cover the center for internet security's essential security controls.

Course Pre-Requisites / Co-Requisites

COP 3430

Course Student Learning Outcomes

By the end of the semester, students should be able to

- Identify and think critically about weaknesses in an enterprise network
- Assess risk and prioritize problem areas
- Identify controls to mitigate risk

Materials and Supply Fees

None

Required Textbooks and Software

- None

Recommended Materials

- None

Weekly Course Schedule

Week	Date	Lecture	Lab / Assignment	HW
1	1/16	Introduction	none	
2	1/23	Risk management	Radical risk reduction	Research an attack
3	1/30	Visit from JHU/APL CIO	Assuring Accurate Asset Inventories	Reflection on guest lecture
4	2/6	Data protection	Back up Everything in Case of Ocean	
5	2/13	Secure configuration of enterprise assets and software	Raising the Stakes: Security by the Book	Pick an enterprise. Make a risk plan for your enterprise. Use the DBIR to identify common attacks on this type of enterprise.
6	2/20	Account management	Local admin no more: security by design	
7	2/27	Access control management	Networking Anomalies: Policy Implementation	Pick an enterprise. Discuss RBAC for your enterprise. Who should have access to assets. Make an access control list
8	3/6	Continuous vulnerability management	Vulnerability Scan Complete: Begin System Hardening	
9	3/13	Audit Log Management	Legitimate Logging Logistics	
10	3/27	Email and web browser protections	Malicious Mail Management	
11	4/3	Data Recovery	Data Backup and Recovery, Definitely Worth Testing	
12	4/10	Network Infrastructure Management	The Network is Down: Contractor Edition	
13	4/17	Network Monitoring and Defense	In Depth with Layered Defense	Take Home Final Due 4/23 Redo Due 4/30

Attendance Policy, Class Expectations, and Make-Up Policy

You are expected to attend class. I will not record class.

Labs

There are 12 labs, each worth 20 points. Two of the lab grades are dropped. These 200 points represent 70% of your grade.

Labs are available for two days, Thursday and Friday. I will go over how to do the lab during class on Thursday. I will not record it. If you want help doing the lab, come to class. You are welcome to collaborate with others during class. Your lab report must be your own.

I'll get you a NICE account after the first week of class. Look for an email inviting you to set up your account.

The NICE portal can be found at <https://portal.nice-challenge.com/login>

Presentation

Starting in week 4 there will be a student group presenting their research on a real attack. You are expected to attend and pay attention to your colleagues' presentation. You will turn in a reflection on three presentations of your choice.

Homeworks

There are 3 20-point homeworks, and 4 5-point reflections. These 80 points represent 15% of your grade. It will be turned in on Canvas and checked for plagiarism.

Final Exam

Final exam is take home. It will be submitted on Canvas and checked for plagiarism.

Evaluation of Grades

We will make every effort to have each assignment graded and posted within one week of the due date.

Course Grading Policy

Assignment	Points
Labs (12, 2 drop)	70%
Final Exam	15%
Homeworks	15%
Total	100%

Grading Scale

Percent	Grade	Grade Points
93 - 100	A	4.00
90.0 - 92.99	A-	3.7
87 - 89.99	B+	3.3
83 - 86.99	B	3.00
80.0 - 82.99	B-	2.7

Percent	Grade	Grade Points
77 - 79.99	C+	2.3
73 - 76.99	C	2.00
70.0 - 72.99	C-	1.7
67 - 69.99	D+	1.3
63 - 66.99	D	1.00
60.0 - 63.99	D-	0.7
0 - 59.99	E	0.00

More information on UF grading policy may be found at:
<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

In-Class Recording

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil

cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://sccr.dso.ufl.edu/process/student-conduct-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Commitment to a Safe and Inclusive Learning Environment

The Herbert Wertheim College of Engineering values varied perspectives and lived experiences within our community and is committed to supporting the University’s core values, including the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information, and veteran status.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- HWCOE Human Resources, 352-392-0904, student-support-hr@eng.ufl.edu
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>

Campus Resources:

Health and Wellness

U Matter, We Care:

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: <https://counseling.ufl.edu>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Discrimination, Harassment, Assault, or Violence

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.
<https://lss.at.ufl.edu/help.shtml>.

Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling; <https://career.ufl.edu>.

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.
<https://teachingcenter.ufl.edu/>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.
<https://writing.ufl.edu/writing-studio/>.

Student Complaints Campus: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>; <https://care.dso.ufl.edu>.

On-Line Students Complaints: <https://distance.ufl.edu/getting-help/>; <https://distance.ufl.edu/state-authorization-status/#student-complaint>.