

COURSE OUTLINE

COURSE NUMBER:	CYBR 5800
COURSE TITLE:	Advanced Computer Networking and Security
SEMESTER HOURS:	Three (3)
PREREQUISITE(S):	CS 3840
SEMESTER:	Fall 2023
INSTRUCTOR:	Dr. Xiaodong Yue, GPEN, GWAPT
OFFICE HOURS:	MT 12:00-2:30pm. Office hours will be conducted virtually through Zoom (https://ucmo.zoom.us/j/7824076722). In person office hours by appointment
OFFICE /PHONE:	WCM 206C (Warrensburg) (660) 543-4847
E-MAIL:	yue@ucmo.edu

LECTURE ZOOM MEETING LINK:

<https://ucmo.zoom.us/j/95510726504?pwd=bExNeTJ6eINHMHVqbGpkZ0xLZE1GUT09>

Meeting ID: 955 1072 6504

Passcode: cybr5800

TEXTBOOK:

Internet Security: A Hands-on Approach, Third Edition, Wenliang Du, ISBN: 978-17330039-6-4, 2022. Or the old version listed below

Computer & Internet Security: A Hands-on Approach, Second Edition, Wenliang Du, ISBN: 978-1733003926 (hardcover) and 978-1733003933 (paperback), 2019.

STUDENT RESPONSIBILITY:

1. Class attendance is **mandatory**.
2. All assignments must be turned in on the due date. Late assignments will **NOT** be accepted.
3. Any student found guilty of cheating is subject to disciplinary action, and may result in the grade of "F" for the course.

TOPICS:

- A. Network Basics

- B. Packet Sniffing and Spoofing
- C. The Link Layer and Attacks
- D. The Network Layer and Attacks
- E. The Transport Layer and Attacks
- F. Virtual Private Network
- G. Firewall and Firewall Evasion
- H. DNS and Attacks

METHOD OF INSTRUCTION:

The lecture format will be the basic mechanism used in the course. Computer demonstrations in the classroom will be used whenever appropriate.

Assessment of student performance will use a criterion-referenced model which will include programming assignments, written assignments, regular examinations, and a comprehensive final examination.

EVALUATION:

Lab/Homework Assignments	60 points
Midterm (October 4)	45 points
Final (December 6)	45 points

Letter grades are based on the following numeric scale:

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	0-59%

PLAGIARISM POLICY:

We believe in the free change of ideas. However, the transfer of ideas into written or machine format is the sole responsibility of the student submitting the work for grading. Therefore students are not to take credit for someone else's idea (where no mutual exchange occurred) nor are they to take credit for someone else's written work. Any violation of this is considered a breach of professional computer science ethics. All parties collaborating in the plagiarism processes are equally liable.

Generative AI use (including, but not limited to, ChatGPT, Bard, Bing Chat) is not permitted in this course when you produce any work that is submitted for a grade. Unauthorized use of content produced by generative AI is considered plagiarism and is not therefore solely your own work. If you are found to have used generative AI to create or assist in the creation of work for this course you will be given a zero on the work and referred to academic affairs for potential further disciplinary action.

ACCESSIBILITY SERVICES

Students with disabilities who are seeking accommodation should contact the Office of Accessibility Services at Union 222, 660-543-4421. If you want to share information about your

needs that I should be aware of, such as emergency medical information or special arrangements for field trips or internships, please see me privately after class or during office hours.

SEXUAL DISCRIMINATION AND SEXUAL MISCONDUCT STATEMENT

The University of Central Missouri seeks to foster a safe and healthy environment built on mutual respect and trust. Sex discrimination, including sexual harassment, sexual violence, and other forms of sexual misconduct will not be tolerated. All faculty and most staff are considered mandated reporters by the University and must disclose all information they receive about sexual misconduct to the Title IX Coordinator. As a faculty or staff member of the University, I am a mandated reporter. This means I am required to report information shared with me regarding sex discrimination and sexual misconduct.

If you, or someone you know, has experienced sex discrimination or sexual misconduct, please know assistance and options are available. UCM strongly encourages all members of the community to seek support and report incidents of this nature to the Title IX Coordinator. Anyone who wishes to report sexual misconduct, to learn more about the University process and options available, or to utilize a confidential resource, please visit ucmo.edu/titleix.

DIVERSITY, EQUITY, AND INCLUSION

The University of Central Missouri strives to develop a campus environment that welcomes and recognizes all dimensions of diversity and inclusiveness. What this means is that all students are welcomed in the classroom, and differences are to be recognized rather than erased or denied. Dimension of diversity can include sex, race, age, national origin, ethnicity, gender identity and expression, intellectual and physical ability, sexuality, income, faith, and non-faith perspectives, socio-economic class, primary language, family status, military experience, and more. Inclusive learning is facilitated by creative and innovative thought and mutual respect; being in this classroom means that you, your faculty member, and your peers pledge to foster a welcoming and equitable environment for all.

If you, or someone you know, has experienced sexual misconduct, please know assistance and options are available. UCM strongly encourages all members of the community to seek support and report incidents of sexual misconduct to the Title IX Office. Anyone who wishes to report sexual misconduct <https://www.ucmo.edu/consumer-information/title-ix-sex-discrimination-and-sexual-assault/reporting-options/> or to learn more about the University process and options available, please visit <https://www.ucmo.edu/consumer-information/title-ix-sex-discrimination-and-sexual-assault/support-and-resources/>