



Be The Difference.

EECE 5800 – Networks and Security

Fred J. Frigo, Ph.D.

Spring 2025

Course Description:

A variety of relevant topics are discussed, including communication network architecture, networking protocols, error control, media access control, routing, addressing, congestion/flow control, TCP and UDP, cryptography, authentication and VPNs.

Course Learning Outcomes:

We will explore fundamental networking principles, protocols, and architectures with emphasis on cybersecurity requirements to protect computer networks and systems from harm, theft, and unauthorized use. The goal of homework and projects will be to gain a deeper understanding of the ideas and concepts of this course through actual implementation in such areas as: network configuration, TCP/IP, firewalls, encryption, certificates, SYSLOG, OpenSSL, TLS, SPLUNK, Wireshark, etc.

Additional expected learning outcomes for graduate students are to analyze and think critically to apply knowledge, skills, and values appropriate to Networks and Security. In addition, graduate students should master new and various methods and technologies at an advanced level.

Location & Schedule:

Class meets on Tuesdays & Thursdays: 5:00pm-6:15pm

Grading:

Homework and Projects: 60%

Mid-term exam: 20%

Final exam: 20%

Recommended Texts:

William Stallings, Lawrie Brown, *Computer Security - Principles and Practice*, 4th edition, 2018.
ISBN: 9780134794105

Douglas E. Comer, *Internetworking with TCP/IP Volume One*, 6th edition, 2013.
ISBN: 9780136085300

Other Notes:

Students are required to comply with all policies outlined in the Graduate Bulletin, including the Marquette University Honor Code and Honor Policy.

Office Hours:

By appointment; using Microsoft Teams or in-person Haggerty Hall – Room 235

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