



Syllabus for CYB 700 Fundamentals of Cybersecurity

NOTE: This syllabus document contains the basic information of this course. The most current syllabus is available in the full course.

Course Description

This course introduces fundamental concepts and design principles in cybersecurity. Students will understand what, why, and how to protect in the cyberworld. Topics include CIA (Confidentiality, Integrity, and Availability), threats, attacks, defense, least privilege, access control and password management, security policies, critical controls, incident-handling and contingency planning, risk assessment and management.

Prerequisites: None

Program Outcomes

This course addresses the following competencies and program outcomes of the Masters of Science in Cybersecurity:

- Program Outcome 1: Interpret and analyze operating system and machine level structures
- Program Outcome 2: Interpret and analyze network protocols
- Program Outcome 10: Implement identity and access management controls
- Program Outcome 11: Assess trends in computer criminology and social behaviors related to technology use including physical security
- Program Outcome 12: Engage in ethical decision-making and apply ethical principles to cybersecurity
- Program Outcome 15: Identify and assess attacks through forensics
- Program Outcome 16: Interpret legal implications of security incidents and conduct investigations using industry best practices

Course Outcomes

Upon completing this course, you will be able to do the following:

- Identify and define key knowledge areas of cybersecurity
- Explain what to protect, why to protect, and create a plan to protect in the cyberworld
- Describe cybersecurity in the real-world and apply their knowledge to scenarios to reflect technology's latest capabilities and trends

Course Requirements/Components

Knowledge Check Quizzes

Each module contains a knowledge check quiz consisting of five (5) multiple-choice questions that were selected based on the readings for that module.

Written Assignments

Generally, there is a written assignment due each week. The purpose of the written assignment is for you to explore a particular topic or concept more deeply.

Discussions

The discussions for this course are based on the case study found in the textbook. One of the more interesting components of the case study are the ethical decision-making questions. These questions are meant to engage you in thoughtful discussion and polite debate. I'm looking forward to them!

Mid-term Long Essay Exam

The mid-term exam consists of six (6) long answer questions based on concepts covered up to that point.

Final Project

The final project provides you an opportunity to select, research, and present on a topic of your choosing.

Course Outline

Module 01: Introduction to Information Security

Module 02: The Need for Security

Module 03: Legal, Ethical, and Professional Issues in Information Security

Module 04: Planning for Security

Module 05: Risk Management

Module 06: Security Technology: Access, Controls, Firewalls, and VPNs

Module 07: Security Technology: Intrusion Detection and Prevention Systems, and Other Security Tools

Module 08: Cryptography

Module 09: Physical Security

Module 10: Implementing Information Security

Module 11: Security and Personnel

Module 12: Information Security Maintenance

Final Project

Grading

Your current grade status will always be available in the Canvas Grades (not Quizzes) section. You should check on your current grades frequently. The following grading scale will be used to evaluate all course requirements and to determine your final grade:

Grade	Percentage Range
A	94% or greater
A-	90% - < 94%
B+	87% - < 90%
B	84% - < 87%
B-	80% - < 84%
C+	77% - < 79%
C	74% - < 77%
C-	70% - < 74%
D	60% - < 70%
F	0 - < 60%

There are two main principles in our grading policy, fairness, and transparency. You should follow all policies on the syllabus and check on your grades frequently. The overall final grading procedure is as follows:

Assignments	Percentage
Written Assignments	30%
Discussion Forums	30%
Mid-term	15%
Final Project	15%
Knowledge Check Quizzes	10%
Total	100%