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 if 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 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:
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:

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