



Syllabus for CYB745 Secure Operating Systems

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

Course Description

Covers operating systems security infrastructure. Topics include, for a given operating system (Windows/Linux), updates and patches, access controls and account management, configuration management, hardening and securing services, and the use of scripting languages to automate security management. Additional topics may include auditing and forensics, virtualization and cloud computing.

Prerequisite(s)

None.

Program Outcomes

- Program Outcome 3: Design, evaluate, and test systems including networks, computers, and hardware for security requirements
- Program Outcome 4: Implement best practices in secure software development
- Program Outcome 10: Implement identity and access management controls

Course Outcomes

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

- Identify the components of an operating system and the vulnerabilities of those components
- Secure a given operating system
- Implement methods for hardening user and system accounts
- Manage vulnerabilities in software and applications
- Detect and respond to attacks targeting operating systems
- Evaluate cybersecurity policies and standards



Course Requirements/Components

Assignments

There are eight assignments, most of which make use of the virtual lab for practicing hands-on skills. These assignments provide an opportunity to apply knowledge gained through the readings and recorded presentations in the course.

Discussions

There are four discussions. The discussions provide an opportunity for you to learn from your peers, receive feedback on your work, and reflect on what you have learned in the course.

Projects

Projects combine advanced virtual lab work with written reflections on the choices you make during the project. The series of Policy projects provide an opportunity to evaluate, revise, and write cybersecurity policy as it pertains to operating systems.

Grading

The following grading scale will be used to evaluate all course requirements and to determine your final grade:

Grade	Percentage Range
A	90% or greater
A-	87% - < 90%
B+	83% - < 87%
B	80% - < 83%
B-	77% - < 80%
C+	73% - < 77%
C	70% - < 73%
C-	65% - < 70%
F	0 - < 65%

Assignments	Percent of Final Grade
Assignments: 8	45%
Discussion: 4	10%
Policy Projects	15%
Operating Systems Hardening Projects	15%
Application Hardening Projects	15%
Total Percent	100%