Note:

Course content may be changed, term to term, without notice. The information below is provided as a guide for course selection and is not binding in any form, and should <u>not</u> be used to purchase course materials.

LIBERTY UNIVERSITY

COURSE SYLLABUS

BMIS 662
TELECOMMUNICATIONS AND NETWORK SECURITY

COURSE DESCRIPTION

This course develops a managerial level review of technical knowledge and terminology for data, voice, image and video communications and computer networks to effectively communicate with technical, operational and management people in telecommunications. The course will cover Telecommunications and Network Security domain which encompasses topics to include: access control network structure, transmission methods, transport formats and security measures used to maintain the integrity, availability, authentication and confidentiality of the transmitted information over both private and public communication networks. The course will also give an overview of network security and the basics of cryptography. Additional topics include but are not limited to: threat models, authentication and authorization mechanisms and standards, public key infrastructure, electronic mail security, network layer security, transport layer and web security, packet filtering, firewalls, intrusion detection and virtual private networks.

RATIONALE

The modern business environment is utilizing web-based servers and systems for a variety of processes. This includes telecommunications and network systems as well. Because of this adoption of web-based resources, firms need to develop new approaches for protecting business data networks. BMIS 662 examines security applications, procedures, and best practices for business telecommunications and networks.

I. PREREQUISITES

For information regarding prerequisites for this course, please refer to the Academic Course Catalog.

II. REQUIRED RESOURCE PURCHASES

Click on the following link to view the required resource(s) for the term in which you are registered: http://bookstore.mbsdirect.net/liberty.htm

III. ADDITIONAL MATERIALS FOR LEARNING

A. Computer with basic audio/video output equipment

B. Internet access (broadband recommended)

C. Microsoft Office

IV. MEASURABLE LEARNING OUTCOMES

Upon successful completion of this course, the student will be able to:

A. Discuss the relevance of course material and the use of technology to a biblical worldview.

B. Compare security issues related to the major computer network topographies, protocols, and ports.

C. Demonstrate the ability to assess the secure nature of data transmitted over various types of computer network and communication domains.

D. Explore security on emerging wired and wireless computer networking technologies.

E. Understand how to inspect the contents of a packet and its capacity to be filtered at various levels of the OSI Model.

V. COURSE REQUIREMENTS AND ASSIGNMENTS

A. Textbook readings and lecture presentations

B. Course Requirements Checklist

After reading the Course Syllabus and Student Expectations, the student will complete the related checklist found in Module/Week 1.

C. Discussion Board Forums (8)

Discussion boards are collaborative learning experiences. Therefore, the student will participate in 8 Discussion Board Forums by completing the assigned readings. The student will post 1 thread of at least 300 words and 2 replies. Each reply must be at least 100 words.

D. Application Activities (3)

The student will compile 7-page reports for 3 Application Activities in this course. Each activity will focus on a different aspect of network security in preparation for the Final Project. Each report must include a title page, diagrams, and references.

E. Final Project

This assignment will be completed in 2

parts: Final Project Outline

The student will complete a 5-page topic proposal including his/her statement of the technology that has been selected, as well as an outline of the project and the anticipated outcomes.

Final Project

The student will identify and investigate current problems/risks in the network security industry specific to a chosen topic. The student will compile a minimum of 20 pages including proposed technology, literature review, overview, background, related work, results, documentation, diagrams, and charts. The student must cite at least 15 scholarly sources, not including the textbook.

F. Quizzes (2)

Each quiz will cover the Reading & Study material for the modules/weeks in which the quiz is assigned. Each quiz will be open-book/open-notes, contain 20 multiple-choice and true/false questions, and have a 30-minute time limit.

G. Midterm Exam

The Midterm Exam will cover the Reading & Study material from Modules/Weeks 1–4. The exam will be open-book/open-notes, contain 50 multiple-choice and true/false questions, and have a 1-hour time limit.

VI. COURSE GRADING AND POLICIES

A. Points

Course Requirements Checklist		10
Discussion Board Forums (8 at 35 pts ea)		280
Application Activities (3 at 65 pts ea)		195
Final Project		
Final Project Outline		30
Final Project		190
Quizzes (2 at 55 pts ea)		110
Midterm Exam		195
	Total	1010

B. Scale

A = 940–1010 A- = 920–939 B+ = 900–919 B = 860–899 B- = 840–859

C+ = 820–839 C = 780–819 C- = 760–779 F = 0–759

D. Disability Assistance

Students with a documented disability may contact LU Online's Office of Disability Academic Support (ODAS) at LUOODAS@liberty.edu to make arrangements for academic accommodations. Further information can be found at www.liberty.edu/disabilitysupport.

COURSE SCHEDULE

BMIS 662

Textbook: Panko, R. & Panko, J., *Business Data Networks and Security* (2015).

MODULE/ WEEK	READING & STUDY	ASSIGNMENTS	POINTS
1	Panko & Panko: chs. 1–2 1 presentation	Course Requirements Checklist Class Introductions DB Forum 1 Quiz 1	10 0 35 55
2	Panko & Panko: ch. 3 1 presentation	DB Forum 2 Application Activity 1	35 65
3	Panko & Panko: chs. 4–5 1 presentation	DB Forum 3 Final Project Outline	35 30
4	Panko & Panko: ch. 6 1 presentation	DB Forum 4 Midterm Exam	35 195
5	Panko & Panko: chs. 7–8 1 presentation	DB Forum 5 Application Activity 2	35 65
6	Panko & Panko: ch. 9 1 presentation	DB Forum 6 Application Activity 3	35 65
7	Panko & Panko: ch. 10 1 presentation	DB Forum 7 Quiz 2	35 55
8	Panko & Panko: ch. 11 1 presentation	DB Forum 8 Final Project	35 190
		TOTAL	**1010**

DB = Discussion Board

NOTE: Module/Week 1 begins on Monday at 12:00 a.m. (ET) and ends Friday night at 11:59 p.m. (ET). Modules/Weeks 2-8 begin on Saturday morning at 12:00am. (ET) and end on Friday night at 11:59 p.m. (ET).