

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 not be used to purchase course materials.

COURSE SYLLABUS

CSCI 601 APPLIED NETWORK SECURITY

COURSE DESCRIPTION

In this course the students will learn hands on, practical techniques for securing a network. Topics include installing, configuring and using Intrusion Detection software, firewalls, anti-virus, etc.

RATIONALE

The increasingly visible rise of cyber security attacks requires the skilled application of security policies and designs in the modern network. This course looks at the development and practical installation and configuration of security policies, designs, and software to protect, prevent, and track networking security attacks.

I. PREREQUISITE

For information regarding prerequisites for this course, please refer to the [Academic Course Catalog](#).

II. REQUIRED RESOURCE PURCHASE

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 Word

IV. MEASURABLE LEARNING OUTCOMES

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

- A. Install, configure, and use major security software in a realistic setting.
- B. Evaluate various features of security software products.
- C. Evaluate the security needs of an organization.
- D. Design a security solution for an organization based on the previous evaluation.
- E. Integrate biblical principles within the field of applied network security.

V. COURSE REQUIREMENTS AND ASSIGNMENTS

- A. Textbook readings and lecture presentations
- B. Course Requirements Checklist
After reading the Syllabus and [Student Expectations](#), the student will complete the related checklist found in Module/Week 1.
- C. Discussion Board Forums (4)
Discussion boards are collaborative learning experiences. Therefore, the student is required to provide a thread in response to the provided prompt for each forum. Each thread must be a minimum of 300 words and demonstrate course-related knowledge. In addition to the thread, the student is required to reply to 2 other classmates' threads. Each reply must be a minimum of 150 words.
- D. Labs (6)
The student will complete labs associated with the course material. Each lab will have specific instructions for tasks, along with deliverables, to be completed in the virtual lab environment.
- E. Network Design Project Part 1
The student will write a 5-page, research-based paper in current APA format that focuses on a network solution design using best practices in network security. Further instructions are provided in the course. The paper must include at least 5 references in addition to the course textbook and the Bible.
- F. Network Design Project Part 2
The student will write a 5-page research-based paper in current APA format that builds upon the paper in the Network Design Project Part 1 – adding content for a security solution for the specialty topic selected in Module/Week 8. The final deliverable will be a 10-page paper combining Parts 1 and 2 – and must include at least 5 additional references in addition to the course textbook and the Bible. The student should modify sections previously written in Part 1 as appropriate to make the final paper cohesive and address issues noted by the instructor when assessing Part 1.

G. Quizzes (6)

Each quiz will cover the Reading & Study material for the assigned modules/weeks. Each quiz will be open-book/open-notes, contain multiple-choice, true/false, and short answer questions, and have a 60-minute time limit.

H. Midterm Exam

The Midterm Exam will cover the Reading & Study material for Modules/Weeks 1–4. The Midterm Exam will be open-book/open-notes, contain multiple-choice and short answer questions, and have a time limit of 1 hour and 30 minutes.

VI. COURSE GRADING AND POLICIES

A. Points

Course Requirements Checklist		10
Discussion Board Forums (4 at 50 pts ea)		200
Labs (6 at 50 pts ea)		300
Network Design Project Part 1		125
Network Design Project Part 2		125
Quizzes	(6 at 25 pts ea)	150
Midterm Exam	(Modules 1–4)	100
	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

C. Disability Assistance

Students with a documented disability may contact Liberty University 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

CSCI 601

Textbooks: Vacca, *Network and System Security* (2014).

MODULE/ WEEK	READING & STUDY	ASSIGNMENTS	POINTS
1	Vacca: ch. 1 1 presentation	Course Requirements Checklist Class Introductions DB Forum 1 Lab 1: SIEM Tools Quiz 1	10 0 50 50 25
2	Vacca: chs. 2–3 1 presentation 2 websites	Lab 2: Network Security Policies Quiz 2	50 25
3	Vacca: ch. 7 1 presentation	DB Forum 2 Lab 3: Network Security Tools Quiz 3	50 50 25
4	Vacca: ch. 8 1 presentation 1 website	Lab 4: VPNs Quiz 4 Network Design Project Part 1	50 25 125
5	Vacca: ch. 9 (sections 1–11) 1 presentation 1 website	Lab 5: IDS Implementation Midterm Exam	50 100
6	Vacca: ch. 9 (sections 12–26) 1 presentation 1 website	DB Forum 3 Quiz 5	50 25
7	Vacca: ch. 10 1 presentation 1 website	Lab 6: Firewall Deployment and Attack Analysis Quiz 6	50 25
8	Vacca: ch. 4, 11, 12, or 13 (depending upon student selection) 1 presentation 3 websites	DB Forum 4 Network Design Project Part 2	50 125
TOTAL			1010

DB = Discussion Board

NOTE: Each course module/week begins on Monday morning at 12:00 a.m. (ET) and ends on Sunday night at 11:59 p.m. (ET). The final module/week ends at 11:59 p.m. (ET) on **Friday**.