

COSC 4853 - Network Security Project

Syllabus for Spring Semester 2012

(As of January 9, 2012)

General Course Description

This is the capstone course in the concentration of network security. The format of the course consists of the planning, design, implementation, testing and documentation of a student-initiated project. Projects may consist of such things as hands-on involvement with an on-campus or off-campus office, applied research in some information security or network security discipline, or preparation for certification as an information security or network security professional. (LeTourneau University Catalog)

Course Format

This is an on-line course in which the student works at his own pace and submits deliverables on the designated dates.

Class Meetings

There are no established class meetings.

Prerequisites

- COSC 3653 Network Security
- COSC 4553 Information Security

Instructor

Dr. Tevis, Associate Professor, Department of Computer Science

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Office Hours

- MWF 1:00PM - 2:30PM

- Or by appointment

Course Objectives

You shall complete a project that is consistent with the General Course Description stated above. This will involve the following deliverables:

1. Project proposal consisting of one or more paragraphs
2. Draft results of a literature review (of at least 500 words) on the topic
3. Draft statement of the problem to be solved and the proposed solution
4. Draft implementation of the solution (which for software shall involve phases)
5. Draft analysis of results
6. Draft final report
7. Completed final report

Course Textbook

- None.

Course Topics

You may select one of the following topics for the project or suggest a topic for approval by the instructor.

- You shall develop a software application that demonstrates some major principles of information/network/computer security or solves some problem in that area. In doing so, you shall take the software through the phases of requirements analysis, design, construction, and test.
- You shall develop a Distributed Denial-of-Service tool consisting of one or more identical client BOTs written in C, C++ or Java and a GUI-based Java server. The server shall offer the ability to copy the client BOT to an IP address supplied by the user, activate/deactivate the BOT to perform a TCP packet flood on a victim computer, and real-time monitoring of the attack progress
- You shall perform a network security vulnerability evaluation on organization interested in such an evaluation. In doing so, you shall take the evaluation through a multi-phase process starting with a planning phase and ending with the writing of a final report.
- You shall complete a Certified Information Systems Security Professional (CISSP) study guide book and take the practice tests with the eventual goal of taking the actual ISSP exam
- You shall complete a study of password vulnerability, compromise and proliferation through the creation and monitoring of various honeypot

accounts on the WWW.

Blackboard (MyLetu Courses)

Blackboard will be the primary source of course information. You will be able to use Blackboard to submit deliverables and check scores.

Assignments

Assignments will consist of specific deliverables listed in the Course Objectives. The due date for each deliverable will be stated on Blackboard. Each deliverable that you submit should be an individual effort on your part. Your submission for each deliverable will receive one of the following scores:

Category	Points	Criteria
Satisfactory	4	On time and meets all of the major requirements of the assignment
Marginal	3	On time but does not meet one or more of the major requirements; however, it is not deficient enough to be judged as unsatisfactory
Unsatisfactory	2	On time but does not meet one or more of the major requirements stated in the assignment
Late	1	Submitted after the due date but before or on the last day of class
No Credit	0	Not submitted at all or submitted after the last day of class

Final Report Format

You shall follow the format shown below for the final report unless a variation is approved by the instructor.

1. Introduction
 - a. Introductory paragraph
 - b. Summary of your literature review
 - c. Overview of the report
2. Problem and Proposed Solution
 - a. Problem
 - b. Proposed solution
3. Implementation
 - a. Requirements analysis

- b. Design
- c. Construction (to include list of equipment)
- d. Testing
- 4. Analysis of Results
- 5. Conclusion
 - a. Summary of the report
 - b. Future work
- 6. References

E-Portfolio

LeTourneau University provides software for students to build an electronic portfolio through the use of the web-based Blackboard. This e-portfolio serves to show your future employers the significant artifacts that you have created as a student. The project that you complete in this course provides you with several items to place in your e-portfolio.

Exams

There are no exams in this course.

Score Weighting and Final Grades

Your final grade will be based on weighted scores adding up to a total course score of 100.

Graded Item	Percentage
Deliverables (average)	80
Final Report	20
Total	100

The instructor will assign letter grades for the course based on the standard 90-80-70-60 scale. A total course score of 90 and above is an A.

E-mail

E-mail shall be used as one means of communication between you and the instructor concerning course administration, assignments, and exams. The instructor will answer each e-mail message usually within 12 hours except on weekends and holidays. A common reason for you to send an e-mail message to the instructor would be a question on course administration and scores, a question on personal issues related to the

course, or a question related to an assignment or an exam.

Academic Honesty

Copied assignments, obtained either from another student or from other sources such as the Internet, will not be tolerated. All assignment work that you submit is considered to be yours alone unless you explicitly state otherwise. If, after investigation, the copying is found to be true, the instructor will give a zero score for the whole assignment to the recipient and to the supplier (if he/she is enrolled in the course.) **Do not give/accept a paper or electronic solution of an individual assignment to/from another student.** Copying on an exam will also result in a zero score.

Special Accommodations

If you have a documented learning disability and if you would like to request academic support services on the basis of this disability, you are required to self-identify. LeTourneau University encourages a student with a disability to self-identify after admission and to provide required documentation to the Office of Student Support Services (in the Student Affairs Building). The Office may be reached by calling (903) 233-4450 or by emailing CarltonMitchell@letu.edu. For more information, please visit the Disability Support Services website.

Achievement Center

You are responsible for utilizing the resources provided by LETU. The Achievement Center offers a number of services for students who would like to improve their learning skills and academic success at LETU. Services include Supplemental Instruction (SI), Tutoring, Math Lab, Study Skills Coaches. For more information, visit the Achievement Center at www.letu.edu/AchievementCenter or drop by the Center, which is located in the Student Affairs Building. Contact them via email at AchievementCenter@letu.edu.

LETU E-mail as Official Communication

You are responsible for checking your LETU e-mail account on a daily basis. The University reserves the right to send official communication to students by email with the full expectation that students will receive email and read these emails in a timely fashion.