



Department of Computer Science
College of Science, Engineering & Technology
Robinson Technology Center Suite 320
700 Park Ave
Norfolk, VA 23504

CSC 635-01: Spring 2014 Computer Security II Syllabus
Class Meetings: RTC 200 Wednesday 6:00-9:00pm

INSTRUCTOR

Name: Dr. Jonathan M. Graham

Office: RTC 310L

Phone: 757.823.9445

Email jmgram@nsu.edu

Office Hours: Monday 6:00 pm – 7:00 pm online , Tuesday 11:00 am- 12:00 pm, MCAR, Wednesday 4:00PM – 5:00 PM, Thursday –6:00 PM:7:00 PM online

DESCRIPTION

This course is an advanced course in Computer Security. It covers topics of current interest in Information Assurance. Topics to be covered include Digital Forensics, Intrusion Detection, Steganography, Security usability, Cloud Computing and Wireless security.

COURSE RATIONALE

This course is an elective for Master's students who wish to major in Information Assurance.

PREREQUISITE

CSC 535 Computer Security I or permission of the Instructor

GOALS and OBJECTIVES

The major goal of the course is to familiarize students with current advanced topics in Information Assurance.

By the end of the course, students will be able to:

- Understand the current major security threats
- Describe techniques to counter these security threats
- Identify methods, tools, and techniques for combating these threats
- Use correct methodology in evaluating current security tools
- Perform research related to developing new security tools

PREREQUISITE

[Computer Security I \(CSC 535\)](#) or permission of instructor

COURSE CREDIT HOURS

3 semester hours

Weeks	Topics	Evaluation
Week 1 : 1/15	Syllabus and Course expectations. Writing a research paper. Student research paper topics. Students' presentation topics and grading rubric. Class participation.	
Week 2: 1/22	Number systems/Storage/Operators/Testing Bits/Setting Bits/Worksheet	Complete Worksheet. Implement functions
Week 3: 1/29	Steganography/Demonstration/Algorithm	Implement a steganography algorithm
Week 4: 2/5	Digital Forensics An Introduction	
Week 5: 2/12	Digital Forensics Continued and Certifications	Digital Forensics Laboratory exercise
Week 6: 2/19	Mobile Forensics Introduction	
Week 7: 2/26	Mobile Forensics:Windows/Android/Apple	Mobile Forensics laboratory exercise
Week 8: 3/5	Network Forensics	Network Forensics laboratory exercise
Week 9: 3/12	Spring Break	
Week 10: 3/19	Student Lectures: Windows/LINUX security	Presentation Rubric: Questions for presenter
Week 11: 3/26	Student Lectures: Internet Browsers security/Instant Messaging security	Presentation Rubric: Questions for presenter
Week 12: 4/2	Student Lectures: Digital Memory Forensics/Wireless network security	Presentation Rubric: Questions for presenter
Week 13: 4/9	Student Lectures:Mobile Botnet Problem/Identity Management	Presentation Rubric: Questions for presenter
Week 14: 4/16	Student Lectures: Intrusion Detection/Firewalls	Presentation Rubric: Questions for presenter
Week 15: 4/23	Student Lectures:Penetration testing/Social Network Security issues	Presentation Rubric: Questions for presenter
Week 16: 4/30	Final Exam Week: Report Due//Research paper due Open	

Text Books and other resources:

Text Books

None required

Other Resources

Instructor will provide handouts as appropriate

KEY Information Assurance sites

National Security Agency <http://www.nsa.gov>

Internet storm center <http://isc.sans.org>

NIST Computer Security Division <http://csrc.nist.gov>

United States Computer Emergency Readiness Team <http://www.us-cert.gov/>

SANS Institute <http://www.sans.org>

INFOSEC Research Council list of hard IA http://www.cyber.st.dhs.gov/docs/IRC_Hard_Problem_List.pdf

Early Computer Security Papers <http://csrc.nist.gov/publications/history/index.html>

NSU OIT Security web site <http://security.nsu.edu>

National Information Assurance Training and Education Center <http://niatec.info>

ACM Special Interest Group on Security, Audit and Control (SIGSAC) www.sigsac.org

Grading and Evaluation Criteria

Publication quality survey paper or project	25%
Security topic presentation	25%
Assignments/Laboratories	40%
Class participation/Discussion groups	10%

Grade	Range
A	90-100
B+	87-89
B	80-86
C+	77-79
C	70-76

The instructor reserves the right to revise the grading criteria as appropriate and will make reasonable attempts to notify students.

METHOD OF INSTRUCTION

The primary method of instruction will be lectures by the instructor with examples, demonstrations and drills. Students will also participate through class and group discussions.

RELATED UNIVERSITY-WIDE AND COURSE-SPECIFIC REQUIREMENTS

Students apply written and oral communication skills through assignments given during the course. This course emphasizes critical thinking.

TUTORING LABORATORY

Tutoring services are available, in the STARS Office, Room 100, RTC. Faculty or upperclassmen provide assistance to those students who may be experiencing difficulties in mathematics, science or computer science classes.

OFFICE LOCATION

The Department of Computer Science is located in suite 320 Robinson Technology Center. The individual faculty offices are located within the suite.

CLASS ATTENDANCE POLICY

The Computer Science Department adheres to the University Policy on class attendance.

WRITING COMPETENCY ASSESSMENT

All students who matriculate at Norfolk State University beginning Fall Semester 2001 and thereafter, will be required to take "entry" and "exit" examinations to assess their writing competency. Both examinations will be administered by the English Department during enrollment in English 101 and 102 respectively. The entry examination is untimed, multiple-choice, and computerized. The exit examination is a two-hour, essay format, and the topic will be relevant to the student's discipline. Therefore, students enrolled in Computer Science courses will be required to complete writing assignments in addition to other requirements to assist them in their preparation for the exit examination. All students are required to take the exit examination prior to completing 90 semester hours.

AMERICANS WITH DISABILITIES ACT (ADA) STATEMENT

In accordance with Section 504 of the 1973 Rehabilitation Act and the Americans with Disabilities Act (ADA) of 1990, if you have a disability or think you have a disability, we ask that you please contact the Disability Service office.

Location: Student Services Building Suite 110, Room 110D

Contact Person: Marian Shepherd - Coordinator DS

Telephone: 757-823-2014 **Email:** mshepherd@nsu.edu

UNIVERSITY ASSESSMENT

As part of NSU's commitment to provide the environment and resources needed for success, students may be required to participate in a number of university-wide assessment activities. The activities may include tests, surveys, focus groups, interviews, and portfolio reviews. The primary purpose of the assessment activities is to determine the extent to which the university's programs and services maintain a high level of quality and meet the needs of students. Students will not be identified in the analysis of results. Unless indicated otherwise by the instructor, results from University assessment activities will not be computed in student grades.

BLACKBOARD INSTRUCTIONS

For Blackboard log-on information go to www.nsu.edu/elearning/firsttimeuser.html