

ISM 324-02: SECURE NETWORKED SYSTEMS
SPRING- 2018

Tuesday – Thursday: 2:00 pm – 3:15 pm, 202 SOEB

INSTRUCTOR INFORMATION

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Office Hours: Tuesday/Thursday 11:00 a.m. – 12:00 noon or by appointment

CATALOG DESCRIPTION

Networking and telecommunication concepts are described. Technical and organizational activities for securing distributed systems are presented. System security and information assurance methodologies, procedures and best practices are studied.

COURSE OBJECTIVES

Upon successful completion of this course students will be able to:

1. Understand the basics of security and overview of networking layers and communications and data communications
2. Identify threats to information assets including malware and social engineering
3. Explain and apply TCP/IP architecture and the Internet model
4. Explore control types and methods
5. Understand cryptography
6. Explain securing your network and data
7. Develop business continuity plans

RECOMMENDED TEXTBOOK & SOFTWARE

1. CompTIA SECURITY+ Get Certified Get Ahead Study Guide by Darril Gibson, CreateSpace Publishing, 2011. ISBN-13: 9781463762360.
2. Networking Essentials, 4th Edition by Jeffrey Beasley and Piyasat Nilkaew, Pearson Education. ISBN-13: 978-0-7897-5819-4. This text comes with a CD Rom which you may use, but the CD is not required. The CD provides simulations of router configuration.
3. Other Readings: Some topics will involve reading supplemental materials. These materials will be posted to the Learning Management System.

TEACHING METHODS

- This course will be delivered by mixing lectures, exercises, exams, and a team project. Lectures will give students basic understanding of network and security topics. Students are encouraged to use materials and resources outside of the required textbook to assist in their learning.
- The team project will help student to understand how these topics are applied in real world scenarios. Project teams will consist of 3-5 students. An assignment sheet will be posted to the Learning Management System describing the details of the project.
- **Students are required to attend every class session** and to participate in the discussions. In class quizzes/exercises will be used to check on class participation. Class exercises are unannounced. **No makeup exercises will be given.**
- Assignments and exams will be used to evaluate students' performances in terms of leaning outcomes.

HOMEWORK ASSIGNMENTS

- Homework assignments should be submitted on or before the "due date". Homework assignments **will not be accepted late regardless of circumstances.** Non-submission counts as a zero score.

EXAMINATIONS

- There will be two exams (Exam 1 and Exam 2). Although, the exam 2 is cumulative, it will be more focused on the material up to the preceding exam. All exams will be closed book, notes, laptops, PDAs, etc.
- **No makeup exams will be given.** It is impossible to make an equivalent exam without the student at either an advantage or disadvantage. If you miss a test without a valid excuse, then your grade for that exam will be zero. If you miss a test with a valid excuse and provide proper documentation to the instructor, your exam 2 grade will be used as the grade for the missed exam. **Documentation must be given to your instructor no later than one week following the missed exam.** Examples of valid excuses are serious illness, death in the direct family, and participation in University sponsored events. Examples of valid documentation are a doctor's note, death certificate or funeral program, memo from the school Athletic Dept, etc. No makeup exams will be given under any circumstance.

DETERMINATION OF COURSE GRADES & GRADING SCALE

The following provides a percentage allocation of each component:

Class project:	20%
Homework Assignments	30%
In-class exercises:	10%
Exam 1:	20%
Exam 2 (cumulative):	20%

Points	Grade	Points	Grade	Points	Grade	Points	Grade
97-100%	A+	87 – 89%	B+	77 – 79%	C+	67 – 69%	D+
93-96%	A	83 – 86%	B	73 – 76%	C	63 – 66%	D
90-92%	A-	80 – 82%	B-	70 – 72%	C-	60 – 62%	D-
						Below 60%	F

The syllabus operates as our document of mutual understanding; it represents our agreement. Changes may be made to it as our progress dictates. Such changes will be discussed in class and class members will be responsible for all changes.

FACULTY AND STUDENT GUIDELINES

(for complete information, see

https://bryan.uncg.edu/wpcontent/uploads/2017/08/faculty_student_guidelines.pdf)

The administration, faculty, staff, and students of the Bryan School of Business and Economics at UNCG are committed to professional and ethical behavior in all areas of their academic and professional lives.

The principles and expectations established in this document and the addendums encompass many aspects of professional behavior and integrity. It is not an exhaustive list, since change is part of life both inside and outside the university. This set of Guidelines constitutes a statement of values and expectations; concerns and issues are still best addressed by conversations between the individual faculty member and student. If further discussions are necessary, please contact the faculty member's Department Head.

EXPECTATION OF STUDENTS

Students in the Bryan School must conform to all existing principles found in UNCG's Academic Integrity Policy and the Student Code of Conduct.

Academic Integrity Policy

University students are expected to conduct themselves in accordance with the highest standards of academic honesty. A student is subject to penalty for academic misconduct, such as illicit possession of exams or exam materials, forgery, or plagiarism. Plagiarism is the presentation of the work of another, as one's own work. Discussing your assignments with other students can be a valuable learning resource; however, each student is expected to do their own original work. It is the student's responsibility to prove their work is original, if challenged.

All students are required to follow the provisions of the UNCG Academic Integrity Policy (<https://osrr.uncg.edu/academic-integrity/>) in completing coursework. If you do not know the provisions of the Academic Integrity Policy, make time to study it.

ATTENDANCE POLICY:

Each student is responsible for all the information and announcements that are made in class. Poor attendance causes poor performance in this course. Any student missing the first class without notifying the instructor will be administratively dropped from the course. Any student missing more than three classes (excused or not) may have their grade dropped by a letter grade. No makeup class exercises/quizzes will be given under any circumstance.

DISABILITY SERVICES:

If you have any type of learning or physical disability, please contact the UNCG Office of Disability Services in Suite 208 EUC. You must register/petition with them first. The Disability office will contact us once your request is approved.

FLEXIBLE COURSE OUTLINE

(SUBJECT TO CHANGE DEPENDING UPON THE PROGRESSION OF THE CLASS)

Week	Date	Topics	Homework Due
1	Jan-09 Jan-11	Review syllabus Basics of Information Security and Overview of Networking Reading: Syllabus, NE Chapter 1, SE Chapter 1	
2	Jan-16 Jan-18	Number Conversions Exploring Control Types and Methods Reading: SE Chapter 2	
3	Jan-23 Jan-25	Wireless Networking Reading: NE Chapter 4	Assignment 1
4	Jan-30 Feb-01	Interconnecting LANs; OSI Model; TCP/IP Model Reading: NE Chapter 5 & 6	
5	Feb-06 Feb-08	IPV4 & IPV6, Subnet Masks Reading: NE Chapter 6	Project Proposal
6	Feb-13 Feb-15	Understanding Basic Network Security and Securing Your Network Reading: SE Chapter 3 & 4	Assignment 2
7	Feb-20 Feb-22	Securing Hosts and Data Reading: SE Chapter 5 Mid-term Exam	<i>Project Plan</i>
8	Feb-27 Mar-01	Securing Hosts and Data & Malware and Social Engineering Reading: SE Chapter 5 & 6	Assignment 3
		Spring Break – No Class	
9	Mar-13 Mar-15	Malware and Social Engineering & Identifying Advanced Attacks Reading: SE Chapter 6 & 7	
10	Mar-20 Mar-22	Understanding Cryptography Reading: SE Chapter 10	Assignment 4
11	Mar-27 Mar-29	Managing Risk/ Preparing for Business Continuity Reading: SE Chapter 8 & 9	Assignment 5
13	Apr-03 Apr-05	Preparing for Business Continuity / Exploring Operational Security Data Center tour/ project work day Reading: SE Chapter 9 & 11	<i>Project Progress Report</i>
14	Apr-10 Apr-12	Exploring Operational Security Exam 2 Review	Assignment 6
15	Apr-17 Apr-19	Exam 2 Project Presentations	<i>Final Project Report</i>
16	Apr-24	Project Presentations	