SY310 AN INTRODUCTION TO NETWORKING & WIRELESS COMMUNICATIONS Spring 2020

Course Policy Statement

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I. Prerequisites. Cyber Security I (SY110), Calculus III (SM224) & Physics II SP212)

II. Textbook. Stallings, Data & Computer Communications, 10th Ed.
Kozierok, The TCP/IP Guide: A Comprehensive, Illustrated Protocols Reference, 1st Ed.

III. Course Overview. The goal of SY310 is to continue educating Cyber Operations majors about cyber infrastructure and systems, inherent cyber vulnerabilities and threats, and appropriate defensive security procedures, thereby enabling them to make principled decisions regarding the potential benefits, consequences, and risks from a proposed use of an information system in today's cyber warfare environment. SY310 is an introduction to wired and wireless communications and as well as computer networking concept. The theme of this course is for the student to understand the entire communication cycle as it pertains to wired and wireless computer networks and communications systems. Beginning with electromagnetic spectrum and the fundamentals that govern its use, each student will learn the unique implications of operating in a wireless environment. The student will learn the fundamental theoretical concepts, characteristics and principles of computer communications and computer networks, and will analyze and assess these foundational concepts with respect to network performance and network design.

IV. Course Objective. This course contributes to the following Cyber Operations major student outcomes (c): *An ability to apply knowledge of computing and mathematics appropriate to the program's student outcomes and to the discipline*.

1. Describe, qualitatively and quantitatively, how underlying electromagnetic spectrum technology is implemented in wireless communication networks and electronic warfare systems.
2. Evaluate the security and robustness of communications systems by determining which characteristics allow a system to transmit sensitive information to an intended receiver across a noisy or vulnerable channel.
3. Evaluate the operation and performance of practical computer-network protocols for communications.
4. Understand fundamentals of network communications include routing, congestion control techniques, internetworking, addressing, connection establishment, and reliable transport.
5. Use modern tools to analyze network traffic.

V. Course Grade. Overall course grades will be computed according to the following assignment weightings. Section instructors reserve the right to raise or lower a grade based on your overall performance.

	6-Week Grade	**12-Week Grade**	**Final**
Homework	25 %	20%	15%
Lab Exercises	50%	30%	20 %
Quizzes	25%	10%	5 %
Midterm Exam		40%	25 %
Wireshark Practical			10 %
Final Exam			25 %

VI. Homework. Completing the homework is essential to understanding the concepts in this course and will prove vital to your successful performance on quizzes and exams. Homework consists of reading and problem assignment. As always, reading the text and course handouts are an integral part of the homework. You are encouraged to seek help from any source; however, your submitted work must be your own and not copied from another student's work.

VII. Exams & Quizzes. A midterm exam and a final exam will be given. Quizzes and exams are normally closed book. All work on exams and quizzes shall be your own, and must be in accordance with USNAINST 153.53 series (Policies Concerning Graded Academic Work).
If you cannot make an exam for any reason, it is your responsibility to inform your instructor as far in advance as possible. In accordance with the Commandant's Table of Priorities (priority d), elective surgery (such as PRK/LASIK) is NOT a valid excuse to miss a scheduled exam. If you find yourself with a PRK appointment(s) that would impact your ability to take the 6- week, 12-week or final exam, you should reschedule that appointment. Unexcused absences from scheduled examinations will be considered an egregious offense similar to missing ship's movement. If you are suffering from an illness or injury, for example a concussion, which impacts your ability to perform well during a scheduled examination, inform your instructor as early as possible so that a makeup examination may be scheduled.

Additionally, **one single-sided, handwritten 8 1⁄2" by 11" note sheet** may be used for the first midterm and **two-sided for the handwritten 8 1⁄2" by 11" note sheet** may be used for the final exam. These note sheets will be collected by your instructor and returned after the exams, except the final.

VIII. Laboratory Exercises. The purpose of laboratory exercises is to reinforce class material. Sometimes students will work independently, and sometimes with a partner or as a group. In any case, all students are individually required to know how to perform the lab. Unless otherwise directed, the final write-up of the lab report is an extension of your understanding of the assignment, and will be concise and complete. The Navy Correspondence Manual (SECNAVINST M-5216.5) "From-To Memorandum" in Chapter 10 should be used as a guide for your submission.

IX. Technology. Your issued laptop is required for each class. Laptops will solely be used for coursework as directed by your instructor. Calculators may be authorized for class, homework, and exams. In the event of a calculator failure, manual calculation will be required. Sharing of calculators will not be permitted during examinations. Cellphones and other mobile/tablet technology is not authorized, unless pre-approved by the section instructor.

X. Plagiarism, collaboration & documentation. Plagiarism is the act of presenting someone else's work or ideas as your own. Examples include (but are not limited to) copying homework from a colleague or from a solution manual, copying computer code, copying text or figures from the Internet, or using another's data in a lab report. It is your responsibility to use proper documentation to always give credit where it is due.

Collaboration on homework and labs can enhance your learning; however, *duplication is not authorized* nor does it help you learn the course material! You may exchange ideas and methods of solving problems, but the numbers, equations, calculations, and finger-to-keyboard effort must be your own. If you do collaborate on an assignment, you must identify the individual(s) with whom you worked *as well as the extent of their assistance* on the top front of the assignment. Under no circumstances is it acceptable to turn in someone else's work (homework, lab, code) as your own

You should include citations for all figures or ideas taken from other sources, including the Internet. Citations to material from the Internet should include the URL and access date. If copying text verbatim, the text should be set apart with quotation marks. In technical writing, paraphrasing is preferred. Paraphrasing is presenting the ideas of the referenced text in your own words. It is not copying the text with a few words changed. Plagiarism is a dishonorable act. It diminishes both the perpetrator and the institution. Err on the side of too much documentation, and if you have any questions, ask your instructor

As a reminder, the professor reserves the right to adjust your final grade based upon your overall performance.