

Course Policy Statement
USNA Department of Electrical & Computer Engineering

EE 302: Electronic Communication Systems and Digital Communications

Fall 2012

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Website: <http://www.usna.edu/EE/ee302>

Text: Frenzel, Principles of Electronic Communication Systems, 3rd ed.

Course Purpose: EE302 is the second in a two-part series of electrical engineering courses designed to give midshipmen the technical background necessary to understand communications and networking equipment that they will undoubtedly encounter as commissioned officers.

Course Objectives: This course is designed to provide you the tools to:

- Demonstrate the ability to analyze tuned circuits and filters through use of simulation and hardware.
- Demonstrate working knowledge of amplitude modulation (AM) and frequency modulation (FM) transmission and AM reception through use of simulation and hardware.
- Demonstrate working knowledge of antennas and their applications at various frequencies and under varying conditions.
- Demonstrate working knowledge of analog-to-digital (A-D) and digital-to-analog (D-A) conversions.
- Demonstrate working knowledge of digital communications and their modulation and multiplexing techniques, as well as error detection and correction.
- Demonstrate working knowledge of microwave systems and the fundamentals of satellite communications, including the Global Positioning System (GPS).
- Demonstrate working knowledge of computers, computer networking, and the Internet.
- Demonstrate working knowledge of Local Area Networks (LAN) and their use of hardware, fiber optics, protocols, and addressing.

Class Schedule. This course meets three times a week; one hour on Monday, and two 2-hour blocks on either Tuesday/Thursday or Wednesday/Friday. Monday classes will be lecture and the 2-hour classes will be split between lecture and laboratory exercises. Each lesson has a reading assignment that is to be completed before class.

Practical Exercises. Practical Exercises (PEs) are designed to be completed in class and will primarily be performed at the laboratory stations, although we will occasionally utilize classroom laptop computers. Reading PEs prior to class will greatly increase your understanding of the learning objectives covered and minimize errors during execution. PEs may be worked individually or in groups at the instructor's discretion. Additionally, individual instructor policy will determine whether midshipmen are required to bring their own copies of the PEs to class. Each PE will be posted on the course website.

Homework. Homework is essential to your comprehension of the course material. A Problem Set (PS) will be assigned for each lesson as per the course syllabus and will be posted on the course website. Individual homework policies vary by instructor and will be promulgated. *Failure to complete all homework assignments to the satisfaction of your instructor may be grounds for course failure.* In accordance with the Honor Concept, collaboration on homework is permitted as "authorized assistance."

Wholesale duplication, on the other hand, is not. In addition to properly documenting your work in homework solutions, any sources of outside assistance should be clearly cited.

Exams and quizzes. Two 50-minute, closed-book exams are scheduled during the academic reserve periods, in addition to a comprehensive, 180-minute final exam. **YOU MUST SHOW ALL WORK TO GET FULL CREDIT.** A calculator and a single, one-sided, handwritten 8 1/2" x 11" note sheet may be used for each exam. These note sheets will be collected by your instructor and returned after the exam. For the final exam, three single-sided, hand-written pages will be permitted which will consist of the two pages prepared for the first two examinations, plus one note sheet covering new material presented after the second exam. Discussion of the contents of the exam with other students on the day of the exam is *strictly forbidden* and constitutes a violation of the Honor Concept. Quizzes will be administered at the discretion of individual instructors. They may be closed or open-book, announced or unannounced.

Lab Practical. The lab practical will test your ability to properly build circuits and measure parameters. Familiarization with the lab bench equipment will be exercised through the PE's that are assigned prior to the administration of this test. The length and details of the test will be promulgated at a later date.

Calculation of course final grade. A weighted average final grade will be calculated as follows:

Exam 1	20 %	**The instructor reserves the right to adjust your final grade based upon their evaluation of your overall course preparation and participation.**
Exam 2	20 %	
Final Exam	30 %	
Lab Practical	10 %	
PE/Quiz/Homework/Instructor	20 %	

Note: Intermediate grading criteria (6/12/16 week) will be established by each individual instructor.

Letter grades will be assigned according to following table.

Numerical score	≥ 90%	80% – 89%	70% – 79%	60% – 69%	≤ 59%
Letter grade	A	B	C	D	F

For EE 303 Students, a weighted average final grade will be calculated as follows:

Exam 1	30%
Exam 2	35%
Lab Practical	10%
PE/Quiz/Homework/Instructor	25%

Calculators. Calculators will be permitted for all labs, homework, quizzes, and exams unless otherwise stated. You are required to bring a calculator to class each period. The calculator should, at a minimum, have the capabilities of the TI-68 (complex numbers, simultaneous equations, trigonometric functions, etc.). In the event of a calculator failure, manual calculation will be required. Sharing of calculators will not be permitted during examinations.

Use of Netbook Computers. Policy concerning the use of netbook computers in the classroom will be established by each individual instructor.

Cell Phones. Use of cell phones during class is unprofessional and is forbidden. Midshipmen caught using cell phones in class will be dealt with by the Instructor. Use of a cell phone during an exam will be considered cheating and handled appropriately.

Extra Instruction. Your instructor is available for individual extra instruction (EI) during office hours or other mutually agreeable time. To prepare for EI, bring your notes, homework problems, and specific questions/problems with you to help identify trouble areas.

Section Leader. The Section Leader will be appointed by the instructor and will be responsible for taking attendance during each class, in addition to any other duties assigned by the instructor. The Section Leader will call the section to attention and report by name the individuals that are absent at the beginning of each class, as well as calling the class to attention for dismissal at the end of the period. In the event the instructor is late for class (in excess of 10 minutes), the Section Leader will contact the ECE Dept. Office (x3-6150). Pending the arrival of someone to take charge of the class, the Section Leader will supervise the class in a study period, collect any assignments due for that period and deliver them to the ECE Dept. Office at the end of the period. Under no circumstances is the Section Leader to secure the class.