

PHY 361 and 361L – Spring 2017 Fundamentals of Electronics
Morehead State University College of Science and Technology
Department of Mathematics and Physics

Instructor: Dr. Kent Price k.price@morheadstate.edu 606-783-2757
Office : 425K Lappin Hall **Hours:** 9:00 – 9:50 am MW, 9:30 – 10:20 T, and by appointment, virtual office hours TBA

Virtual Office: I use Blackboard Collaborate as my [Virtual Office](#). Click the link to access it. When I am there (logged in) you will be able to talk to me via text and audio chat, and to work problems with me on a virtual whiteboard. I can be available in my virtual office during regular office hours and via appointment.

Required Text: Electronics, Principles and Applications, by C. A. Schuler, 8th edition
Textbook website: [McGraw-Hill Schuler](#)

Objectives: To survey electronics: components, basic circuits, transistors, op-amps, digital circuits, and interfacing Prerequisite PHYS 232 or 202

Other goals: To become familiar with the basic measurement tools and trouble-shooting techniques used in electronics; to improve student's ability at communicating scientific results in written and oral form.

Grades: 90 – 100 % A; 80-89.9 % B; 70-79.9% C; 60-69.9% D

In-semester exams (3)	30 %
Final exam	25 %
Project	10 %
Homework	15 %
Lab participation	10 %
<u>Lab reports</u>	<u>10 %</u>
Total	100 %

Attendance: Attendance in the lecture is expected. Attendance for exams and for each lab period is mandatory. Unavoidable absences from laboratory or a midterm exam due to extenuating circumstances will be handled by the instructor on a case-by-case basis. Providing advance notice of the absence when possible will increase the chances that the absence is considered excused.

In-Semester Exams: Exams will cover the course material presented over the previous few weeks of class (not cumulative from previous exams) and will consist of both written and practical parts. The written parts may include problems or questions from the lecture or lab, and the practical part will require the students to demonstrate proficiency with equipment and procedures learned in the laboratory.

Final Exam: The final exam will cover material from the entire course (cumulative) and will consist of written and practical parts.

Homework: Homework will be assigned periodically and may consist of problems from the text or other problems or assignments designed by the instructor. Late work will be accepted up to 3 days after the assigned date or until solutions are posted, *whichever comes first*, for a 10 % per day penalty.

Lab participation: All students are expected to participate fully in laboratory. This includes attendance, listening to directions given by the instructor concerning the laboratory, sharing work approximately equally with lab partner(s), cleaning your experiment area after each experiment, etc.

Lab reports: The first step in writing a good lab report is taking careful data and notes in a lab manual. Therefore all students are required to have a lab manual and *must* use the lab manual to record all data and notes for each experiment in ink as they are made. If you make a mistake, line-out the error and make a note of it - do not erase or blot out the data, in case you change your mind about the mistake. Scrap paper is not to be used for recording data. The entries in your lab manual must be legible and clearly labeled. The instructor may ask to inspect your lab manual at any time.

The lab report is an explanation and interpretation of your experiment presented in such a way as to be understood by a physicist who has no prior knowledge of your experiment. The lab report will serve as "practice" for writing scientific journal articles or reports for your boss later in your career. The lab report is separate from your lab manual. Your lab should consist of a clear and concise 1) description 2) results/data 3) discussion and conclusion. The lab report should only be 2-3 pages long. Not every lab will require a full report. Lab reports are due the lab period after the completion of the experiment. Late lab reports will be accepted up to one week after the due date for a 10 % per day late penalty.

Project: students will be required to submit a written and oral report on a topic of his/her choosing related to modern electronics. The topic must be approved by the instructor. The written report should be between 5-10 pages and the oral report (presented during class) should be approximately 10 minutes long.

Academic Honesty

Cheating, fabrication, plagiarism or helping others to commit these acts will not be tolerated. Academic dishonesty will result in severe disciplinary action including, but not limited to, failure of the student assessment item or course, and/ or dismissal from MSU. If you are not sure what constitutes academic dishonesty, read the Eagle: Student Handbook or ask your instructor. An example of plagiarism is copying information from the internet when appropriate credit is not given. The policy is located at <http://www.moreheadstate.edu/Student-Services/Dean-of-Students/Eagle-Student-Handbook>

Americans with Disabilities Act (ADA)

Students with disabilities are entitled to academic accommodations and services to support their access and safety. The Office for Disability Services in 109-J Enrollment Services Center coordinates reasonable accommodations for students with documented

disabilities. Although a request may be made at any time, services are best applied when they are requested at or before the start of the semester. Please contact Disability Services at 606-783-5188 or e.day@moreheadstate.edu or visit their website at www.moreheadstate.edu/disability.

Campus Safety Statement

Emergency response information will be discussed in class. Students should familiarize themselves with the nearest exit routes in the event evacuation becomes necessary. You should notify your instructor at the beginning of the semester if you have special needs or will require assistance during an emergency evacuation. Students should familiarize themselves with emergency response protocols at <http://www.moreheadstate.edu/emergency>