

PHY 270: Electronics and Instrumentation Gustavus Adolphus College Spring 2021

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Homework help, Q&A, and more: (aka Zoom office hours)
Monday 1:30-3:30, Thursday 9-10, and by appointment. **Drop by to talk about anything!**

Course website: Moodle

Zoom Meetings: <https://hellogustavus.zoom.us/j/9521400001> Meeting ID: 952 140 0001

Textbooks: *Electrical Engineering: Principles and Applications* (5th Edition), by Allan R. Hambley
Laboratory Manual (for PHY271, co-requisite lab course)

References: *Analog and Digital Electronics for Scientific Application*, by Dennis Barnaal, Breton Publishers, ©1982
Digital Electronics: A Practical Approach, by William Kleitz, Pearson, ©2008

Course Description and Objectives:

This course and lab comprise electronics theory, design, and testing. Topics include basic and specialized circuits, devices and their characteristics, and modern test equipment. Students will learn in a hands-on setting in both a in studio format in groups and in a laboratory format individually.

Course Policies and Evaluation

1. Attendance: Students are expected to attend all classes during the scheduled hours. Students are responsible for informing themselves of material and assignments covered during absences. Students must advise the instructor in writing during the first week of class of any scheduled athletic, music, or other college activities that will require their absence during the semester. Such written notice does not imply a waiver of course requirements or an agreement to reschedule exams.

2. Studio/Group Activities: Students will work in assigned groups and roles to build, test, and characterize electronic circuits in a cooperative-learning setting. A worksheet detailing the studio or group activity will be handed out in class, and each group will complete one worksheet and submit it for a group grade. There will be no make-up for activities missed due to unexcused absence.

3. Reading Quizzes: When reading assignments are made for a class session, the reading is expected to be completed before coming to the class. Before each class period that involves reading from the textbook and/or a studio worksheet, each student is required to take an online quiz to demonstrate that he/she has read and obtained a basic understanding of the material in the textbook for the next lecture. The reading quiz **must be completed 15 minutes before class starts, i.e. at 8:15 am.**

4. Homework: Problems sets will be assigned approximately every week and are due at the beginning of class on the assigned date. Written homework sets should be neat and organized. Legibility and thorough explanations of answers are required. Each student will submit their own assignment, but you are encouraged to discuss and work problems with each other, and your instructor. Copying of homework

from any source, including using answers found from the internet, is considered a violation of the academic honor code.

5. Late Homework: Two homework assignments will be accepted up to 24 hours late without penalty. Subsequent late assignments will begin with a 50% penalty. An additional 25% penalty accrues every 24 hours thereafter. The only exception to this will be 1 1-hour grace period for a single assignment if you contact me immediately with technology issues during submission.

6. Exams: There will be three, one-hour exams and a two-hour final exam. Students are expected to arrange in writing with the instructor well in advance to take an exam/quiz at other than the announced time. Requests to reschedule exams/quizzes for non-emergency reasons will be declined. Missed exams for an unexcused absence will result in a score of zero.

7. Academic Honesty: You will abide by the academic honesty policy printed in the Academic Bulletin and abide by decisions of the joint student/faculty Honor Board. **The use of internet solutions or answer books (including parts of problems) or parasitizing (including copying) other students for any assignment, quiz, or exam, unless specifically stated otherwise, is not allowed, and will result in a zero for the entire assignment, quiz, or exam and reporting to the dean of students as a minimum penalty.** It is your responsibility, as a student, to ask questions if you are not sure about what constitutes academic honesty in any other aspect of this course. Severe (even on the first incidence) or repeat offenders risk a grade of failing for the entire course at the instructor's discretion.

8. Accessibility Services: Gustavus Adolphus College is committed to ensuring the full participation of all students in its programs. If you have a documented disability (or you think you may have a disability of any nature) and, as a result, need academic accommodation to participate in class, take tests or benefit from the College's services, then you should speak with the Disability Services staff for a confidential discussion of your needs and appropriate plans. Course requirements cannot be waived, but reasonable accommodations may be provided based on disability documentation and course outcomes. Accommodations cannot be made retroactively; therefore, to maximize your academic success at Gustavus, please contact the college's disability services as early as possible. **When accommodations are given, it is the student's responsibility to communicate in advance of deadlines and work with the professor to satisfy the accommodations each time they are utilized in this course.**

9. Incompletes: An incomplete will only be given if, after the last day to withdraw has passed, unforeseen circumstances beyond the student's control (usually restricted to illness or emergency) preclude completion of the **remaining** work for the course by the end of the semester. Note that poor planning or having a lot of work to complete at the end of the term are not considered circumstances beyond a student's control. (College policy)

10. Evaluation: Course grades will be assigned using the following scale as a guide:

Hour exams 30%	(10% each)	94-100 A	74-78 C+
Final Exam 20%		90-94 A-	70-74 C
Homework 20%		86-90 B+	66-70 C-
Group & Studio work 20%		82-86 B	0-66 F
Reading Quizzes 10%		78-82 B-	

Assignment of the final letter grades will also consider other factors including the instructor's subjective evaluation of attendance, initiative, evidence of improvement, and the quality of independent work.

COVID Information:

It is the policy of Gustavus Adolphus College that all students must abide by rules and standards designed to protect the community. Refusal to comply with any COVID related rules will be handled through the student disciplinary sanction process and will be reported to the Office of Student Life.

- Upon the first and second offense, I will ask you to leave and you will not be invited back on that day. You will receive a score of zero for any daily class activity, including possible penalty in the final grade.
- Upon the third offense, I will ask you to leave and you will fail the class.

Masking

Correctly positioned face masks (covering both your nose and your mouth) must be worn in public spaces within buildings on campus at all times, including classrooms and labs.

Social Distancing

You should maintain a distance at least 6 feet apart from others. When facing other students (e.g., for discussion) a distance greater than 6 feet is desirable. Some seats and/or tables in buildings have been blocked off with tape to maintain 6-foot social distancing and to avoid exceeding the COVID-capacity of the room. Do not move furniture. Do not remove tape from chairs, tables, or floors. When moving around the room, as well as entering and exiting, please try to remain six feet from others, and keep your mask on.

Exiting and Entering Class

All students need to enter the classroom one at a time, and proceed directly to assigned seats. When exiting the classroom, please wait until you are dismissed so that students may exit in a socially distanced way.

Please note that it may not be possible for faculty to remain in the classroom after class to answer questions from students. If the faculty member decides it is safe to do so, please remain in your seat as others are excused. Then you may ask your question while remaining in your seat.

Seating Chart

You must sit in your assigned seat every day throughout the semester. The seating chart will help minimize your exposure to the virus as well as provide for a contact tracing tool. If you have any concerns about the location of your assigned seat, please let me know.

Sanitizing Kit Guidelines and Expectations

Please sanitize your hands using your personal kit upon entering the classroom and before exiting. There is a station for refilling personal hand sanitizer bottles located in each hallway or floor of the academic buildings.

Food and Beverages

No food will be permitted in classrooms unless there is a medical accommodation. Beverages will be permitted in classrooms, but students may only remove face coverings briefly during the time when they are actually drinking, if necessary. **Overuse of the drinking privilege may be considered a violation of the masking policy.**

COVID-19 Exposure Guidelines

If another student who has been attending our class in-person, or your instructor, tests positive for COVID-19, any student who has spent 15 minutes or more in close contact (within 6 feet) with the COVID-positive individual will become part of a contact trace. It does not matter whether you and the COVID-positive individual were wearing masks. You and any others who were in close contact with the COVID-positive individual within 48 hours of their positive test or first symptoms of COVID, will be notified by a Gustavus staff person that they have been exposed to the virus and will be required to go into quarantine for a period of 14 days. The Gustavus staff person will assist you in understanding the next required steps to enter quarantine. Please note that if you avoid being within 6 feet of other students for more than 15 minutes, you have a better chance of avoiding being quarantined and becoming infected, according to the Minnesota Department of Health.