PHYS-3209-A Syllabus

Electronics I, 3 credit hours

Fall 2026

Instructor Information

Instructor: Prof. Michael Chapman

Email: mchapman@gatech.edu

General Course Information

Description

This is a first course in both theoretical and applied electronics that is based on a thorough grounding in circuit as well as device physics.

This is a combined lecture+lab course.

The laboratory part of the course will use a variety of electronics instruments and tools, including oscilloscopes, function generators, Moku:Go FPGA-based multi-instruments, soldering tools, breadboards, etc.

Course Learning Outcomes

Develop theoretical and practical expertise in basic circuit design, simulation, construction and testing, including: DC circuits, AC circuits, passive and active filters, diodes, transistors, operational amplifiers, digital circuits, and microprocessors.

Required Course Materials

Basic Electronics for Scientists and Engineers, 2nd Edition (D. Eggleston), Cambridge University Press.

Grading Policy:

Labs 65%

Pre-lab exercises 10%

Quizzes 25%

Description of Graded Components

Lab grades will be determined by the successful completion of the lab work together with the lab reports that you will submit for each completed lab.

You are not allowed to use data that you were not personally involved in acquiring. Doing so constitutes academic misconduct.

Late policy: assignments turned in within one week after the due date will be marked down 10%. Assignments turned in more than one week will not receive credit.

Course Policies

Attendance and/or Participation

Lab attendance and active participation in the laboratory work is required and an important element to this course.

If you have to miss a lab session, you are required to provide advance notice to the instructor by email. There should be virtually no scenario where this is not possible.

If you miss a lab session for an excused absence, you need to arrange to come into the lab at another time to complete the lab work. Note that the instructor or TA will likely not be available to provide assistance outside of the scheduled lab sessions.

You are not allowed to use data that you were not personally involved in acquiring. Doing so constitutes academic misconduct.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review Georgia Tech's Honor Code and the student Code of Conduct.

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Core IMPACTS

Core IMPACTS is the University System of Georgia's General Education curriculum. If you are teaching a course that counts towards Core IMPACTS, you should include a syllabus statement about the Core area and associated career competencies. This resource developed by the Center for Excellence in Teaching and Learning and Online Education at

Georgia State University includes template syllabus statements for each of the Core IMPACTS areas that you may adapt for your course.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.