

CSCI 26700 §01 # 4510 Fall 2019  
Microprocessors and Embedded Systems  
Tu & Fr 3:45-5:00; N-1001A

August 2019

**Finding Your Instructor**

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Phone: 212-772-4349  
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Office Hours: Tuesdays and Fridays 2:30 - 3:30 p.m.  
or by appointment.

In addition, messages can be left for me at the Computer Science Department office, which is located in N-1008 and is reachable at (212)772-5213. Please note that I will only read plain `ASCII text` email, not HTML or MicroSoft Word encoded documents. Also note that any email concerning anything that might fall under the FERPA regulations (e.g. questions about grades or other class related issues) *must* be sent from your “myhunter” account.

**Materials Etc.** You will be expected to purchase, build and program an Arduino based “system”. In addition you will probably need additional parts (motors, transistors, sensors, etc.) and tools (soldering iron, pliers, bread-boards, etc.) which you will also have to purchase. Programming the Arduino board is done in a higher level language called Wiring using the Processing IDE. Programs are loaded via a USB cable and perhaps an adapter. The Arduino Uno (R3) (for example) is based on the ATmega 328 processor. It has 6 analog inputs (A to D converters) and 14 digital I/O pins, 6 of which can be set for PWM output. The Arduino also has code libraries for various external devices like servos and H-bridges.

**Grades** Grades will be based on your ability to program and build an Arduino based system, a couple of papers about your project, presentations about your progress and a midterm exam. A few weeks into the semester you will be expected to pick a project to build. Much of your grade (40%) depends on successfully completing this project. 20% will be based on two papers about your project (one proposing the project and the second “wrapping it up”), 10% will be based on one to four (depending on class size) “progress reports” (presentations) and the remaining 30% will be based on an exam. The exam will be given on Tuesday, October 29. The final paper must be handed in, and the final project demonstrated, no later than the scheduled final. This is currently listed as Tuesday, 17 December, 1:45 - 3:45, but the college has been known to change this.

Please note that paper and project deadlines are “hard”. As in any real-time system, lateness is failure.

**Outcomes** This course is all about the interplay between hardware and software. Successful students will understand the relationship between software and architecture (Learning Goal 1B). Additionally, because programming will have to be done in a language appropriate to the hardware, students will have to master another programming language to create a substantial project. This supports Learning Goals 2A and 2B. Students will also have to communicate technical ideas in an oral and a written format, in support of Learning Goal 3A.

**Policy on Academic Integrity:** Hunter College regards acts of academic dishonesty (e.g. plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

**ADA Compliance:** In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical and/ or Learning) consult the Office of AccessABILITY located in Room E1124 to secure necessary academic accommodations. For further information and assistance please call (212-772-4857)/ TTY (212-650-3230).

**Cell Phones, Computers, Etc.:** I expect all cell phones, pagers, etc. to be inaudible during class. I expect all computers, cell phones, and any other devices to be used for class-related activities only. Any student found texting, chatting, tweeting, etc. or with any electronic device that disrupts the class will lose two (2) points from their final average (per occurrence).

**Hunter College Policy on Sexual Misconduct** In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).

b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

CUNY Policy on Sexual Misconduct Link:

<http://www.cuny.edu/about/administration/offices/la/Policy-on-Sexual-Misconduct-12-1-14-with-links.pdf>

**Important Events** Baring the unforeseen, these dates, where enforceable, are firm deadlines.

**Day 4, Sept. 6** You should have a working Arduino board and IDE.

**Day 5, Sept. 10** Paper proposing project due. Note that writing the paper is necessary but not sufficient for the project to be accepted.

**Day 9, Sept. 24** Solderday. Bring your irons, stands, etc. to class.

**Day 11, Oct. 4** You should have most of your parts ordered by now.

**Day 17, Oct 29** Exam

**Day 29, Dec. 17** Last day to demonstrate working project and hand in final paper.

**Note** that details of this document are subject to change if the need arises.