Dear EE319K Students,

I hope your winder break was relaxing and fun. Professors Cuevas, Yerraballi and I will be teaching EE319K this semester. All EE319K sections will perform the same homework, labs and exams. Some of the EE319H labs are slightly more advanced. You must be in the same unique number (lab hour) as your partner for Labs 3-9.

Action item 0) Because EE319K covers both assembly and C, you will find the second half of Yale Patt's Introduction to Computing Systems (EE306/BME306 textbook) to be quite useful. We will give reading assignments from the Patt book. Professor Yerraballi and I also created this C reference manual <http://users.ece.utexas.edu/~valvano/embed/toc1.htm>

Action item 1) There is a required textbook for EE319K. Introduction to Embedded Systems, ISBN: 978-1537105727. This book is printed on demand and can be purchased from Amazon.com <https://www.amazon.com/Introduction-Embedded-Systems-Jonathan-Valvano/dp/1537105728> (it usually ships the next day, but depending on demand, it could take up to two weeks). The price for the book without shipping will be about $20. Because all the editions of the book have the same ISBN, buying the book used will probably result in receiving an older edition. If you have Embedded Systems: Introduction to ARM Cortex-M Microcontrollers Volume 1 ISBN: 978-1477508992, you could use it. However, the chapter numbers are different.

Action item 2) We will be using the EK-TM4C123-GXL microcontroller board from Texas Instruments. If you can find an EK-LM4F120XL board, it could also be used. Since the board is only $13, we suggest each student purchase their own board and solderless breadboard. Buying options for the board can be found by searching <https://octopart.com/search?q=EK-TM4C123GXL>

Another option is to purchase it directly from [www.ti.com](http://www.ti.com). We have been using the board since Fall 2013, so you might be able to find one used. If you do purchase a used microcontroller board, ask a TA or professor to run the board tester to make sure all the pins work. If it still works at the end of the semester, you will be able to sell this board to students in the next semester.

Action item 3) We use a Sitronix ST7735R 18-bit color 1.8" TFT LCD display in lab. You could get away with one display per group of two. However, we recommend each student purchase their own display, because this allows both partners to work on labs concurrently. EE319K Lab 10 is a design competition where students build a hand-held video game. Owning the LCD means you will be able to show off your game to friends and family. Just like the microcontroller board, you will have the option of selling the LCD to subsequent students. There are three options to purchase a display. The one option is Adafruit <http://www.adafruit.com/products/358>. The display is also available at traditional parts vendors like Digikey and Mouser. For availability, search <https://octopart.com/358-adafruit+industries-32978550> A lower cost option is [www.amazon.com](http://www.amazon.com) or [www.ebay.com](http://www.ebay.com) (search for "Sitronix ST7735R". There is time for it to arrive from China because we will first need the LCD in Lab 7. You do not need to purchase the 10-pin male header (the TAs will have some of these). MAKE SURE YOU GET A Sitronix ST7735R LCD WITH A PCB BOARD AND NOT JUST THE DISPLAY. There should be a 10-pin (or more) connector with 0.1 inch spacing, so it plugs into a breadboard.

Action item 4) You will need a solderless breadboard. We strongly recommend you do not buy used or borrow a used breadboard, because as the breadboards get old they fail in mysterious and extremely annoying ways (shorts and opens). The Twin Industries TW-E40-1020 is a breadboard that is easy to find. Any breadboard, any size will be OK. Another approach is to search “solderless breadboard” on [www.amazon.com](http://www.amazon.com) or [www.ebay.com](http://www.ebay.com)

We are all looking forward to a great semester! Feel free to reach out to me if you have any questions or problems.

Jon Valvano