Dear ECE319K Students, (sent 8/8/2022)

This has been a weird two years. Until the pandemic is under control, let’s continue to practice guidelines set out by the medical experts. Please be confident we at the University will keep your best interests at the center of all we do. ECE319K lectures and labs will be fully face-to-face. Valvano will have one face-to-face OH each week on the EER east lawn.

Action item 0) Because ECE319K covers both assembly and C, you will find the second half of Yale Patt's Introduction to Computing Systems (ECE306 textbook) to be quite useful. We will give reading assignments from the Patt book. If you have the Patt book keep it; if you do not own the Patt book, no worries (do not buy it now). Professor Yerraballi and I created this C reference manual<http://users.ece.utexas.edu/~valvano/embed/toc1.htm>

Action item 1) Professor Yerraballi and I created an interactive electronic version of the EE319K textbook. It is free, please bookmark this page <http://users.ece.utexas.edu/%7Evalvano/Volume1/IntroToEmbSys/>

However, if you would like a printed version of the same material, there is an *optional* textbook for ECE319K. Introduction to Embedded Systems, ISBN: 978-1537105727. The book has more written words, and an index. 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 $22. Because all the editions of the book have the same ISBN, buying the book used will result in receiving an older edition. The newest version is the 8th printing, dated July 2021.  You are allowed to use an older edition if you have it. We do not recommend you buy a used copy.

Action item 2) You will need a TM4C123 EK-TM4C123GX LaunchPad. PLEASE DO NOT WAIT, ORDER THIS ASAP.  
<https://octopart.com/search?q=EK-TM4C123GXL>   
<https://www.ti.com/store/ti/en/p/product/?p=EK-TM4C123GXL>Search for 595-EK-TM4C123GXL at <https://www.mouser.com>

Action item 3) We use a Sitronix ST7735R 18-bit color 1.8" TFT LCD display in lab. 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>. A lower cost option is [www.amazon.com](http://www.amazon.com)  or [www.ebay.com](http://www.ebay.com)   (search for  **1.8" ST7735R**.) Make sure it has a PCB, not just the display. It should be ST7735R, not just ST7735 or ST7735S. It should be 1.8 inches with 160 by 128 color pixels. There should be a 10-pin (or more) connector with 0.1 inch spacing, so it plugs into a breadboard.

Action item 4) Every student should have one solderless breadboard and at least 30 wires male-male wires. On the internet there are many options, search “solderless breadboard” or “prototyping kit” on Amazon.  Something like<https://www.amazon.com/Standard-Jumper-Solderless-Prototype-Breadboard/dp/B07H7V1X7Y/> is ok. Please do not buy a used breadboard.

Action item 5) Every student should own their own voltmeter. A voltmeter less than $20 will do, see

<https://www.amazon.com/Digital-Multimeter-Electrical-Voltmeter-Battery/dp/B08DV1T385/>   
<https://www.amazon.com/AstroAI-Digital-Multimeter-Voltage-Tester/dp/B01ISAMUA6/>

Harbor Freight has locations around Texas and usually sells voltmeters for around $23:

<https://www.harborfreight.com/11-function-digital-multimeter-with-audible-continuity-61593.html>

DO NOT WAIT TO ORDER LAUNCHPAD, LCD, BREADBOARD and MULTIMETER. We are all looking forward to a great semester! Feel free to reach out to me if you have any questions or problems. We are going to have a great semester!

Jon Valvano [valvano@mail.utexas.edu](mailto:valvano@mail.utexas.edu)