Subject: 4744: Introduction and Info [Spring 2026]
From: "Eric M. Schwartz" <ems@ufl.edu>
Date: 12/17/2025, 4:14 PM
Spring 2026 EEL4744C student:

Welcome to EEL 4744: Microprocessor Applications (also known as uP) ! I am looking forward to an exciting Spring semester. You might just remember EEL 4744 for the rest of your life (in a good way, I hope). [At an away football game few years ago, a former uP student came up to me to tell me how uP changed his life (even though he hated the class at the time). He thanked me heartily for the course and how it has positively affected his career.]

MORE ON NEXT PAGE

As of the writing of this email (on December 17th), there **MAY BE a few more spaces** in the course (and usually there are many drops during the first week of the semester).

We have one lecture section for the course:

- Tuesdays, period 4 (10:40-11:30am) and Thursdays, periods 4-5 (10:40am-12:35pm) in MAEC 303. A UF map is available at https://campusmap.ufl.edu/ .

We also have a schedule remote class time on Wednesdays, periods 9-10 (4:05-6:00pm) for quizzes and practicals (discussed later).

The lectures will be live and in-person person, i.e., **NOT** be Zoomed. Class attendance is **required**. Our first class is on Tuesday, January 13th. This first class is especially important, since in this class you will learn how the course is organized.

Although the classes and labs will be in-person, all students will need a functioning webcam with microphone, and relatively high speed and stable internet connection (minimum upload and download bandwidths of 2 Mpbs) through which you can participate in lab quizzes, lecture quizzes, practicals, and the final exam. Our lecture quizzes will be in class, but all rest of the lab quizzes, the two practicals, and the final exam will be held remotely (through Zoom, Canvas, and Honorlock) mostly during our Wednesday class time. If you don't have the bandwidth at your residence for remote and live assignments, you must either secure the hardware for this or find an alternate location that does have the bandwidth. (Note that **neither** headphones **nor** earbuds are allowed during Honorlock administered assignments.) You will also need a smartphone with which you can scan documents to submit for the course.

There is **NO NEED** to buy a textbook, either new or used. A few semesters ago, I made the textbook optional; it will not be used for homework assignments and not be part of the resources available during your quizzes and exams. You might consider buying and sharing a textbook with a few other students. Textbook info is available on the syllabus and some purchasing options (updated on December 17th) are available https://mil.ufl.edu/4744/admin/4744_Textbook.pdf.

You will receive your lab kit during your first lab (Lab 0), starting sometime on or after Monday, January 26th. There will be no labs before January 26th. Labs will be held in MAEB 223. A lab schedule is available on our syllabus. Other than Lab 0, which will be done in large groups, the lab demos in 4744 this semester will be in ten minute blocks, not a two period session like what you had in 3701 (and possibly other courses). On Wednesday, January 21st, during our weekly remote lab time of 4:05-6:00pm, you will select your Lab 0 time and a ten minute lab block day/time for the rest of your labs (and also take your Lab 0 Quiz).

If you do NOT already own an **D**iligent **A**nalog **D**iscovery (DAD), good news! The ECE department will supply you with a DAD-3 to use at no cost to you! You will not own this DAD, but will be borrowing it from ECE. ECE and CpE students will need to return it just prior to their BS graduation; students with other majors will need to return it at the end of the semester. A DAD is required for this course (and many other ECE courses); it will be used in most labs and during two of our (practical) exams. (If you already own a DAD, any working version of the DAD is okay, including the original versions, the DAD-1 and DAD-2.) Students in the course can**not** share the devices, since everyone will need their own

during two of our (practical) exams.

You will also need a few parts that you **may** have used in 3701, including a breadboard, wire kit, and the components necessary to construct eight switch circuits and eight LED circuits. You will also need to install software on your PC (Quartus) to program a PLD, that you will borrow for a few weeks from the lab. See our syllabus for a complete list of required parts. **Note that due to the recently imposed tariffs, some prices have gone up significantly from last semester.** Depending on when you took 3701, there may be other parts that you will need to purchase. You can buy everything that you need from a local company, OOTB Electronics and Robotics. OOTB sells three options, depending on what you already own: a 4744 Complete kit, a 4744 Parts only (**without** the large breadboard and wire kit), and a 40-pin breakout and cable. See the syllabus for more details. You can alternatively buy most of the parts separately from Jameco (or elsewhere); a breadboard from Jameco (smaller than the one from OOTB) is available at Jameco Part #: 20774 and a wire kit is available at Jameco Part #: 19290. If you buy your breadboard elsewhere, be sure that it is as big as the one specified on the Jameco website. Several other parts from what used to be distributed in the 3701 lab kit may (depending on when you took the course) need to be purchased. The PLD (DE10-lite kit) that you borrow will need to be returned after your Lab 4 demonstration and Practical 1 have both been completed.

Also, each student will need their own laptop PC for use for use in lectures, lab, and during our quizzes and exams. If your computer does not have a USB type A and a USB type B port then you will need to buy a USB port expander (generally, $7 to $15, prior to the newly imposed tariffs). (In most labs, you will only need two USB ports, one for your 4744 PCBs and the other for your DAD. In one lab and one practical exam, you will also need a USB port to program your PLD; but the USB used for your uPAD can be switched out to program your PLD.)

The 4744 lab kit (uPAD) requires a USB type B port; a USB male type A (for the computer) to male type B (for the uPAD) cable is supplied in the lab kit. The new DAD-3 has an included cable that is USB male type C to USB male type C. If your laptop does not have these two USB ports (one for the uPAD and one for your DAD), then you will need to buy a USB Port Expander (generally, $7 to $15) or USB type converters. Details of what might be needed is at the end of this email (under USB Requirements).

A preliminary syllabus is now posted; I'll continue to update it when I get new information. The dates of the first lab (and all the other labs) are available in the syllabus. Our website is mil.ufl.edu/4744; the website will be used to distribute documents for our course. (Note that as of today, the website is missing a security certificate, but I can assure you that it is safe.) The material that we will cover this fall will be very similar to what we have covered over the last several semesters, but the course structure has changed significantly in the last few years. We will use Canvas (ufl.instructure.com/) for course submissions and raw grade posting.

Our class has a Slack channel, eel4744.slack.com. I will ****REGULARLY**** post announcements to this account. I will **NOT** generally email announcements; I only send them via slack. Use this invitation link to get signed up. Getting slack messages in this course is VERY important. Previously, when I was using Twitter (now called X) instead of slack, I sent a hint about three hours previous to a 4744 exam and several students told me that they never saw it!

Please let me know if you have any questions, either with an email reply or with a message on the

#help channel in Slack.

All the best,

Dr. Schwartz
EEL4744 instructor, Spring 2026

P.S. If any of your friends might be interested in taking 4744, please encourage them to do so. There might be a few spaces remaining.

P.P.S. **Action items:**

1. If necessary, buy a USB port expander and/or USB converter. If necessary, buy a webcam. If necessary, upgrade your WiFi or plan to take your quizzes/exams in a location that has stable and sufficient WiFi. If necessary, buy a speaker for your computer.
2. If you plan to buy a textbook (**NOT** required), used ones get sold pretty quickly, so order one soon!
3. If necessary, purchase the necessary accessories from OOTB or somewhere else.
4. If necessary, purchase a breadboard and wire kit (which may also be available from OOTB. Otherwise, I suggest Jameco Part #: 20774 and Jameco Part #: 19290, respectively.
5. Later, if necessary, purchased some required other items prior to January 19th (but prior to Wed, Jan 14th, if possible).

USB requirements:

You will use three USB connected items for our labs. The 4744 lab kit (uPAD) requires a USB type B port; a USB male type A (for the computer) to male type B (for the uPAD) cable is supplied in the lab kit. If you took 3701 in the fall, then you will use the **DE10-lite**. The DE10-lite comes with a type A male to type B male USB cable (with the type B male USB side plugged into the DE10-lite and the type A male side plugged into the USB computer port). If you have an old DAD-2 (or DAD-1), it requires a USB micro type port; a USB male type A (for the computer) to a male USB micro type port cable is supplied in the lab kit. The new **DAD-3** has a USB-C cable (male to male).

One solutions, if you have a shortage or the wrong kind of USB ports, is to get a USB hub like one of those below.

Alternatively, if you have two USB C ports on there computer, you could get one of the below adapters for the DE10-lite

or you could get a new a USB C to USB A cable (below).

If you have two USB A ports on your computers, you could get one of the below adapters for the DAD-3

or a new a USB A to USB B cable (below).

If you are unsure, please bring your laptop to a PI during office hours and they will help you decide the best solution.

Dr. Eric M. Schwartz
Director, Machine Intel. Lab (MIL)
Master Lecturer/Instructional Professor
Dept. of Elec. & Comp. Engineering
Director, NaviGator AMS Project
Director, SubjuGator AUV Project
Director, PropaGator ASV Project
Faculty Advisor, IEEE UF Student Branch
Chair, IEEE Gainesville Section
University of Florida

Phone: (352) 392-2541
e-mail: ems@ufl.edu
http://mil.ufl.edu/ems/
1889 Museum Rd
Malachowsky Hall #3110
Gainesville, FL 32611

MIL Location: 3001 MALA
