1)National Instruments MyDAQ purchase:

Starting in week 4 students in the lab sections will pair up into groups to learn the MyDAQ and to do a design project together,

and each group is expected to have their own MyDAQ unit to use, starting in week 4. (Each students is encouraged to

obtain their own MyDAQ, which will also be used in later EE courses that you will take.) Here are the details:

NOTES REGARDING SOFTWARE TO RUN THE MYDAQ:

All the required software (only ELVIS) is already installed on the CLICC laptops you can loan for

four hours at at time, at various locations (libraries) across the campus. Boot up the CLICC laptop

in Windows mode, plug in your MyDAQ (USB port), then from the Start Menu choose National Instruments

/ ELVIS / Instrument Launcher.

To install the software on your own laptop: The only required software for EE3 is the **ELVISmx** virtual

instrument (VI) set and the drivers for the myDAQ, which can be downloaded all for free here

([ELVIS version 17.0](http://www.ni.com/download/ni-elvismx-software-bundle-17.0/6866/en/)).

Note that ELVIS software comes with the myDAQ you will purchase, BUT the DVD that comes with

recent myDAQ shipments apparently has version 4.4.x of ELVIS, which has a software bug

in the BODE virtual instrument (number of points per decade stuck at only 5).

This section is obsolete

Thus we advise that you install ELVIS (ver. 14.0) from the download link given above,

in the proper installation sequence as NI advises, if you'll also be installing other software

than just ELVIS: That order is:

1) LabVIEW, from DVD (if you choose to install LabVIEW), then

2) Circuit Design Suite [MultiSim + Ultiboard], from DVD (if you choose to install it), then

3) ELVIS, ver. 14.0, with DAQmx drivers, from the above download link (not from DVD)

The ReadMe file for the DAQmx drivers, which ELVISmx installs, is found here:

(It identifies a **Hotfix** that is required to also be installed if using ELVIS on Windows XP.)

[http://download.ni.com/support/softlib//multifunction\_daq/nidaqmx/9.3.0/readme.html](http://download.ni.com/support/softlib/multifunction_daq/nidaqmx/9.3.0/readme.html)

MAC USERS: The ELVIS software only works in Windows mode, so you’ll have to first create a windows environment

on your laptop (Boot Camp, VMWare, etc) and then install the MyDAQ software there. We recommend

using Boot Camp, and detailed Boot Camp setup instructions are provided at the end of this document.

a) **Recommended** MyDAQ purchase option with ELVIS (and including software licenses for LabVIEW, Multisim and Ultiboard)

$199 <http://www.studica.com/us/en/National-Instruments-students-ni-labview-mydaq/ni-mydaq/781327-01_1.html>

LabVIEW / Multisim / Ultiboard software are not required for the EE3 course, but previous students have

saved time making their EE3 project using LabVIEW programming, and LabVIEW is also used in other UCLA courses.

Multisim provides schematic capture, producing professional-looking circuit diagrams, and also solves circuit

analysis problems (a feature you can use to check your manual solutions to the EE3 homeworks, and more).

Ultiboard does PCB layout and generates Gerber files that can be used by a PCB manufacturer.

b) Economy MyDAQ purchase option with ELVIS (same as above but w/o the LabVIEW/Multisim/Ultiboard software licenses: Includes only 30 day sw trials.)

$179 <http://www.studica.com/us/en/National-Instruments-students-ni-labview-mydaq/ni-mydaq/781325-01.html>

\*\*\*\*\*\*\*\*\*\* Whatever purchase options you choose, allow a few weeks for shipping and handling -- so order early, by end of 2nd week. \*\*\*\*\*\*\*\*\*\*\*\*

2)Breadboard purchase (optional)

Without your own breadboard, you'd have to borrow a breadboard from the lab stock room (checking it out with your

UCLA student ID card) and then remove all your components and return the breadboard back to the stockroom at the

end of the lab period. The breadbaords that include the MyDAQ edge connectors allow you to leave all your wiring

in place on the breadbaord and quickly connect and disconnect the breadboard from the MyDAQ.

(The MyDAQ comes with a separate edge connector with screw terminals that can be used with any of these breadboards.)

a) Premium breadboard (**recommended**): AKA myProtoBoard; FULL-size, with built-in MyDAQ edge connector, clear labeling of all the MyDAQ

connections, and also includes a 9V battery socket.

$40 <http://www.studica.com/us/en/ni-protoboard-for-mydaq_1.html>

b) Mid-class breadboard: HALF-size, with MyDAQ edge connector, MyDAQ connection labeling, but no 9V battery socket.

$30 <https://www.sparkfun.com/products/10705>

c) Economy breadboard: FULL-size, no MyDAQ edge connector, no MyDAQ connection labeling, no 9V battery socket,

but does include an extra set of jumper wires.

$9 <http://www.studica.com/us/en/breadboard-and-jumper-wire-kit.html>

**Boot Camp** Setup Instructions, for MACs with Intel Processors:

Step1: download Windows7

Go to [courseweb.seas.ucla.edu](https://courseweb.seas.ucla.edu)

Log on using ucla logon id

On the left side, click on ‘software download’

Click ‘MSDN academic alliance (for students)’

Select windows 7

The purchase is FREE!!

After you check-out, make sure you have the copy of the serial number.

Follow the instructions on downloading the win7 installation software

Burn a DVD using installation software

Step 2: Boot Camp

Apple has very good instruction. Choose one of these regarding your system.

<http://manuals.info.apple.com/en_US/boot_camp_install-setup_10.7.pdf>

<http://manuals.info.apple.com/en_US/boot_camp_install-setup_10.6.pdf>

Here are the highlights of the instructions:

Requirements:

If a Mac is to run Windows, it must have an Intel processor, without exception. You

must have a legitimate copy of Windows (Apple only officially supports Windows 7,

since OS X 10.7—if you choose to install Vista, XP, or even 8, you do so at your own

risk, and standard installation guides may not help). You must have a functioning optical

drive for the Windows disc. You must have about 20 GB of free space on your hard

drive. You must have an external USB drive for Windows support software (explained in

step 2).

To install:

1. Make sure you have Boot Camp Assistant installed (should be in the Utilities folder

in Applications), and that all your software is up-to-date.

2. Run Boot Camp Assistant. It will ask you if you have the latest Windows support

software, or if you would like to download it. Make sure you download it and put it on

an external USB drive, formatted as FAT, FAT32, or exFAT (formatting can be done via

Disk Utility, and instructions may be found via Google). The Windows support software

is a set of drivers and programs which allow Windows to correctly interact with Apple

hardware. It also installs the Windows Boot Camp applet and Apple software update.

3. Partition your hard drive using Boot Camp Assistant. This creates a space for your

Windows partition, without harming your existing OS X partition. The partition at

absolute minimum must be 20 GB, but should be at least 30 or 40 GB, to allow for

program installations.

4. Insert your genuine Windows installation disc, and press Install in Boot Camp

Assistant. The computer will restart and run the Windows installation.

5. During the installation, Windows will ask where it should install. One of the

available partitions will be named BOOTCAMP. Select that partition, click on Advanced

options, and format the partition for installation (NTFS). Do not format any other

partition, as this could permanently erase all of your OS X data. After formatting, press

Next, without selecting a different partition (the name will have changed from

BOOTCAMP, but this is normal—make sure you stay on the same partition, as Windows

will not be able to install on any other partition). Continue the Windows installation per

usual.

6. After Windows is installed, install the Windows support software from Step 2. This

will cause your computer to restart, which is ok.

7. Run Windows Update, as many times as is needed, restarting as necessary. It is

always a good idea to keep your OS up-to-date.

That is it! I will add a note or two. When you install Windows on a Mac, it changes the

default startup disk to the Bootcamp Partition. This means that your computer will

automatically boot to Windows upon startup. If you wish to change this, you have

several options:

Hold the “option” button as your computer starts.

o Immediately after pressing the power button to turn your

computer on, hold the option button, until you see a Startup Manager

appear. This allows you to select the partition your computer should

boot, and you can select the OS X partition, the Windows partition,

or the OS X Recovery partition (but don’t select that third one, unless

you wish to reinstall OS X). This is called “option-booting”.

Opt to boot to OS X from Windows.

o Click on the Boot Camp icon in the bottom right corner of the task

bar—it looks like a small, grey diamond. In the pop-out list that

appears, select “Restart into OS X”.

**Change the default startup disk**.

o This is the only permanent way to make your computer normally

boot in OS X again. This can be done in either Windows or OS X.

§ In Windows, click on the Boot Camp icon. Select

“Preferences” or “Settings”. Change the Startup disk to

your OS X startup disk by selecting its icon.

§ In OS X, open System Preferences, and open Startup

Disk. Select your OS X startup disk by selecting its icon.

o After doing this in either Windows or OS X, your computer will

boot to OS X normally, and will require option-booting to get back to

Windows.