

COP 2930 Embedded Computing, CRN 16144,

Fall Term, 2017, Mondays, 6 PM to 8 PM,

Room 7-122, West Campus,

Professor Jerry Reed, greed9@valenciacollege.edu, 407 582 5583

This class is open to anyone with an interest in embedded computing, which means creating code that works with hardware to accomplish some task. This might be on an Arduino or a Raspberry Pi, and might be for robotics, an Internet of Things (IoT) device, a Maker project, an art project, wearable computing, or just plain silly application.

For beginners, we will learn the basics of soldering, and just enough hardware to avoid frying your new Raspberry Pi. We'll do some simple coding projects with Arduino, including building a simple laser light show, controlling a R/C car, an automatic light switch and so on. No background in coding is assumed.

For more advanced folks (and there will be some in the class, for sure), we'll have teams working on inertial and GPS navigation for small vehicles, as well as sensors and data collection for counting bats (the flying mammals), and other environmental projects. If you already have knowledge of robotics, sensors, electronics, or software/app development, join us and share your ideas and expertise.

If you don't have a concrete idea for what you want to do as a new Maker, then come and learn the basics of embedded programming. If you have a project in mind already, come and get input from other folks, and get help in getting your idea up and going.

So we'll combine hands-on work, team work, guest speakers and participants. We may host a local Arduino meetup, or guest at other meetups including the Orlando Robotics and Makers Club.

The idea here is that this is not just to have a class – it's to build a community.

This is a hybrid class. That means we meet face-to-face once a week, and we collaborate on-line using Valencia's Blackboard Learning Management System.

In addition to our classroom, we have a small but well-equipped lab/Makerspace with soldering (and desoldering) equipment, test equipment, lots of Arduinos and Raspberry Pi's, Robot chassis, pieces and parts and so on.

A note to those folks who are my age (60-ish) and up – you could take the class for minimal expense, since Valencia offers a Senior Citizens program that lets you sign up for the class at the last minute, but basically for free. <http://valenciacollege.edu/admissions-records/registration-details/seniorcitizens.cfm>
There's some paperwork, but it's a great deal if you qualify.

The Spring term class had a wonderful mix of students, ranging in age from High School seniors to long-time retirees. The interaction across this diverse group was great, with the younger students supplying a lot of the coding assistance, and the older ones supplying math, theory and electronics knowledge.

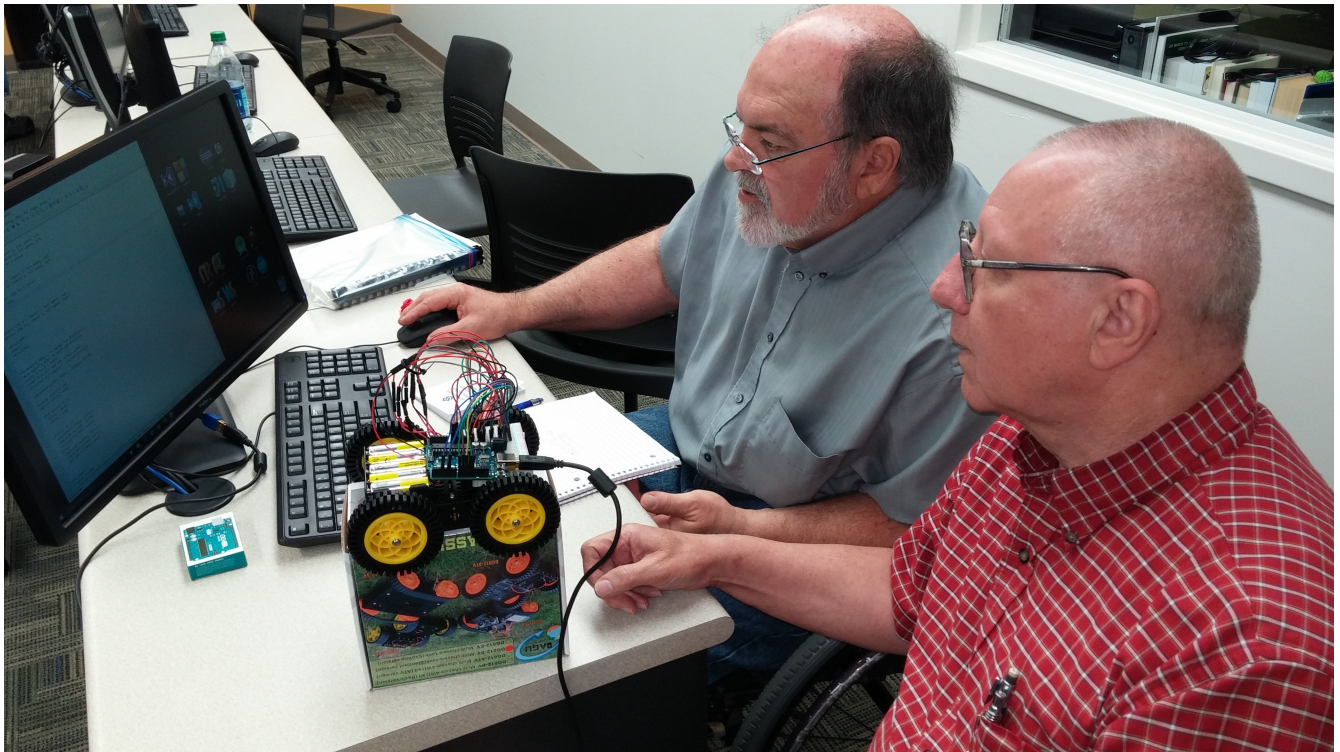


Illustration 1: Bill and Florian test their robot car



Illustration 2: Guest speaker Jean-Paul talks about his Meetup



Illustration 3: This pile of parts will be an Arduino-controlled car soon

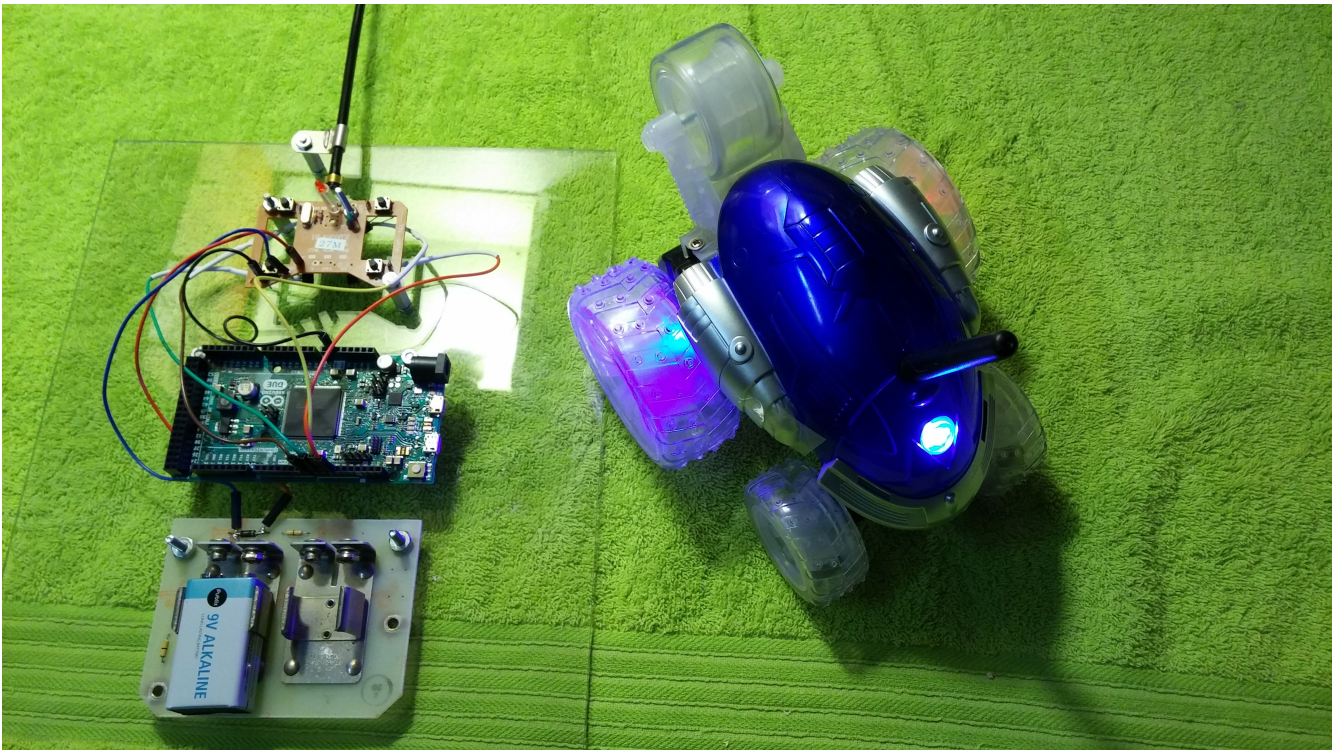


Illustration 4: Hacked R/C "stunt car" powered by Arduino now



Illustration 5: Working in the Makerspace lab – and we're moving to a larger room!



Illustration 6: Lots of hands-on work, featuring advice and consultation from all.