

Chelsea Tutorials

2020 - 2021

Programming: Physical Computing with Arduino (9th through 12th grade)

Course Description:

By the end of this course, the students should be able to

1. Setup and utilize a development system for simple Arduino microcontrollers
2. Write simple block oriented programs
3. Learn the basic syntax of C, a C-like programming language
4. Understand basic electrical circuits and how to wire up sensor circuits to use with an Arduino microcontroller
5. Learn how to pursue different applications utilizing the Arduino platform and other platforms.

Prerequisite: Exposure to algebraic concepts.

Instructor: Chuck Summers graduated from Georgia Institute of Technology with a bachelor's in Electrical Engineering in 1975 and earned a master's in Electrical Engineering in 1981. In addition to his engineering career, he has taught in several Christian Schools and with home school cooperative programs (algebra 1, algebra 2, geometry, physical science, and Latin). While living in Woodstock, Georgia, he worked at a tutoring facility with precalculus, calculus I and II, and physics students. Mr. Summers also tutors privately algebra, geometry, precalculus, calculus, and physics.

Mr. Summers not only enjoys interacting with students in math and science, he is actively learning new math and hobbies include radio, astronomy, rocks and minerals, electronics and ham radio. He believes that only on the basis of an understanding of the God of the Bible that any knowledge is possible. He enjoys learning about how God's technology: how He has made things function.

Chuck and Becky (a wonderful, understanding woman) have been married 48 years. Together they raised 7 children, have seven grandchildren and one great-granddaughter. They reside in Harpersville.

Contact info: phone: 770-309-1984
email: summers.chuck@gmail.com

Text: LearnArduino.pdf

This is a downloadable book available at <https://c-stem.ucdavis.edu/boards>.

Other Requirements:

A laptop which can be connected to the internet and satisfy the minimum requirements at www.aleks.com/support/system_requirements.

A laptop with a USB port and an Arduino UNO board.

You should purchase the Arduino Compatible Uno Starter Kit available at <https://www.barobo.com/product-page/arduino-uno-starter-kit>

Location: Grace Presbyterian Church, PCA (located at 109 Foothills Pkwy, #104, Chelsea, AL 35043)

Day: Monday

Time: 10:30 – 12:00

Grade Level: 9th - 12th grade

Tuition and Fees:

Registration Fee: \$25 nonrefundable payable to Chuck Summers

Tuition: \$185 per semester payable to Chuck Summers

Facility Fee: The annual facility fee for this class is \$30 per student, not to exceed \$180 per family. This fee is payable to Grace Presbyterian Church, PCA, on the first day of class.

Class Minimum: The class will have a minimum of 4 students and a maximum of 8 students. If the minimum number of students is not reached, class may be canceled.