

Arduino & Genuino CTC program FAQ

What is CTC?

Creative Technologies in the Classroom, or CTC, is a program comprised of learning materials and educational services that enables participants to learn programming, mechanics and electronics. The idea is to involve teachers and their students in a collaborative learning process centered around hands-on experiments that include programming, mechanics and electronics.

What does the CTC program include?

CTC consists of 4 modules or blocks covering various topics. The CTC program is a toolbox comprised of more than 20 hands-on and easily assembled electronic projects, an online source for course materials, documentation tools, content specific reference sections, and professional support services.

How long is CTC?

The program can be delivered to the students at the educator's own discretion, often been broken down to 5 sessions of instructor training, 8 weeks of running the different modules, and 9 weeks for students to develop their own projects which cumulates in a one-day project showcase. During the showcase, or faire, the students get a chance to demonstrate their work and receive feedback. The CTC program is flexible, and can be planned to fit the needs of the participating schools.

Is there training included?

The general design of the CTC program provides 20 hours of training for the educators. This will be done through online training, and through a combination of recorded lectures, support materials, and questions and answers forums. There will also be the option of joining live webinars that will be pre-scheduled every other week.

How many students can use one kit?

The kit is designed to allow one full class to be split into six groups and work with the material in a project based manner. The groups are meant to pick one project each in every block that they find interesting, and then build it together.

How many boards are in a kit?

There are six boards in the CTC kit

What is the difference between CTC classic and CTC 101?

The difference is both the board and the educational material. In CTC 101, the board that is used also come with on-board BLE (Bluetooth Low Energy) and motion sensors. The CTC 101 content makes use of the specific features and implements a new set of experiments that utilize the BLE and motion sensors. CTC classic is custom designed for the UNO board.

What languages are offered?

English, Spanish and more will be add in the future

Do the instructors or students receive any type of certification?

You get a diploma as a certificate or proof that you have participated in the CTC project.

Can a non-profit or community group outside of a school run the program?

The CTC project is aimed at schools, but any group of people interested can take part as long as the terms and conditions are agreed upon.

How can we incorporate this into our curriculum?

We recommend you work cross curricular, and involve different subjects that you think can be introduced with the CTC material. Maybe you want to go in-depth on motors in physics, emphasize the creative parts in your art classes, or touch on graphics programming for your technology classes. CTC provides the perfect opening for going into more theoretical and practical depth on a wide range of subjects. Technology, Maths and Physics are given subjects for the cross curricular CTC approach, but you are also encouraged to apply associated parts of it to art, wood work, sewing, civics, English, etc.

The CTC material has consciously been developed with current learning goals and school subjects in mind. The main strengths of CTC are that it shares a lot of touch points with the modern curriculum, and the fact that it has cross curricular qualities. This allows you to incorporate time from several subjects at your school, and bring your school out of the subject locked activities, and into the creative cross curricular future.

How do I gain confidence to teach the material?

Many people, including teachers, are hesitant to step into and explore unknown territories. It is more comfortable to stick to the teaching material that you, usually through years of hard work, have put together and got to know by heart over the years. The CTC material encourages you to step down from your responsibility of retaining all the knowledge in the world, to invite challenge, and to embrace the possibilities of collaborative learning. How to prepare your students for the future? Well, the future is in constant change - for the better - and that's what we all should strive to be.

What ages are the activities best suited for?

It is hard to specify an exact age that the CTC material is best suited for, but we recommend that students who take part in it have at least reached 13 years of age. On the other end, there is no upper age limit - you are never too old to learn!

What materials are required by the schools?

- Participating schools should have student access to computers and the ability to access the internet - A dedicated room that can function as a workshop, or at least a room with tables to work on - Different exercises may involve common school appliances such as pens, scissors, sticky tape, etc.