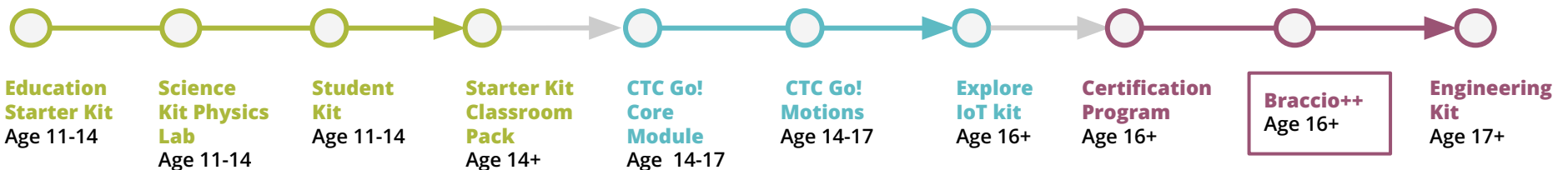# Discover the Arduino Braccio ++

The next evolution of the Tinkerkit Braccio robot, Braccio++ is a robotic arm designed solely for higher education, including engineering schools and university institutes of technology.

There's not a lot this robotic arm with five degrees of freedom isn't capable of, and recreating a replica of an industrial robot used on an assembly line will teach students more about manufacturing processes, product design, robotics, and automation.

Arduino Education Learning Evolution

Our aim is to help students achieve their dream careers in STEAM. Our cross-curriculum content and open-source approach are essential tools for STEAM classes that develop with students as they progress through **middle school, high school, and university**, preparing them for a successful future.

Education Starter Kit	Science Kit Physics Lab	Student Kit	Starter Kit Classroom Pack	CTC Go! Core Module	CTC Go! Motions	Explore IoT kit	Certification Program	Braccio++	Engineering Kit
Age 11-14	Age 11-14	Age 11-14	Age 14+	Age 14-17	Age 14-17	Age 16+	Age 16+	Age 16+	Age 17+

Arduino Braccio ++

Product Benefits

- Teach real life applications of physical concepts through lifting, placing, rotating, and sorting different items
- Adaptability: Braccio++ can easily add mobility and enhance other projects
- Create a small replica of a real industrial robot used on an assembly line or an automotive factory


Key Learning Outcomes

University:

- Kinematic chains
- 3-dimensional space and relationships between coordinate frames
- Delivering a payload to a specified location
- The geometry and mathematical representation of rigid body motion
- Forward and inverse kinematics of articulated mechanical arms
- Trajectory generation
- Manipulator dynamics
- Actuation and design issues
- Manipulator control

Highschool:

- Motions and forces
- Interactions of energy and matter
- Manufacturing processes, product design, robotics, and automation
- Robotic or automated system arm construction
- The concepts of torque, gear ratio, stability, and weight of payload
- The concepts of linkages and gearin in end effectors and their use in a robotic or automated arm system
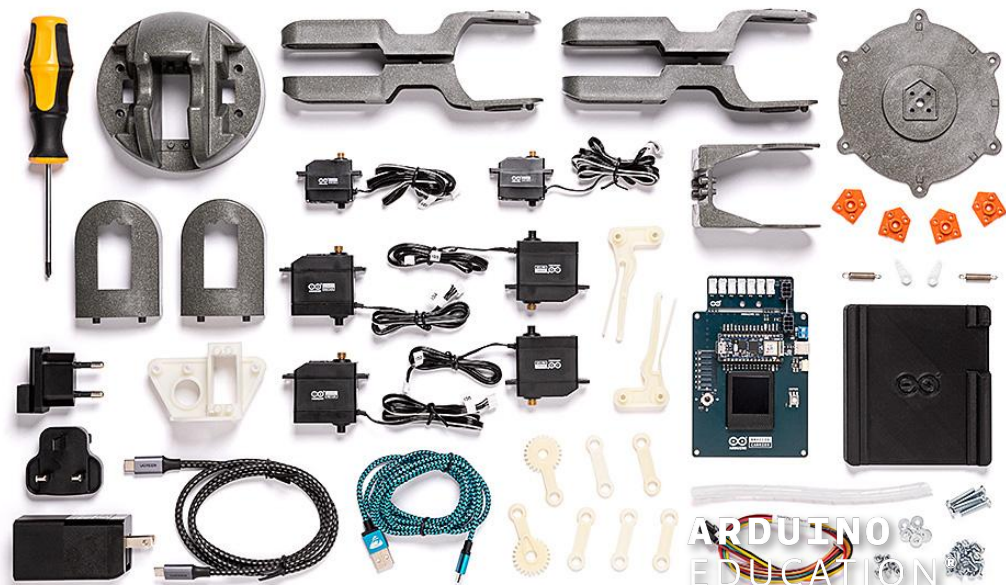
Discover more at: **store.arduino.cc**