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Acellus STEM-10 Coding Course and Robot Launched at CES 2018

Acellus, the fastest growing learning system in America, has now stepped up with a major initiative to teach young students how to code. Officially unveiled at CES 2018, the Acellus STEM-10 initiative is a 10 year course in coding. It starts with students in the 3rd Grade, adding complexity each year until a student graduates from high school as a certified programmer ready to enter the work place.

STEM-10 is an initiative envisioned by Acellus Founder and Chairman, Dr. Roger Billings. Rather than the usual games or dancing robots associated with STEM, this course is a serious educational endeavor. All 10 years of the courseware are specifically targeted at empowering students to get jobs in technology and to make significant contributions in the real world.

In the first year of STEM-10, the 3rd graders take lessons starting from square zero and then advance step-by-step through the fundamentals of coding. In the first half of the year, the course builds a baseline understanding of the concepts needed to learn coding. In the second half of the year, the students are introduced to Cellus Bot, a teaching robot which is equipped with lights, motor, and sensors, all of which are controlled by block coding modules included as part of the course. As an additional touch, the Bot sports a laser which draws shapes and circles as the robot dances. The built-in accelerometer supports program-controlled responses to movements and positioning of the Bot. Students first learn how to control the robot in the most simplistic manner, but the lessons develop in complexity as the course progresses.

Perhaps the most unique feature of the course is that all of the instruction is self-contained. As a result, the Acellus STEM-10 is an excellent choice for elementary schools, where teachers trained in coding are often in short supply. It is also the right choice for parents without technical backgrounds, seeking to homeschool children.

The on-camera teacher of the course is a highly-trained and experienced veteran engineer having completed several highly complex design projects. His lessons are well done and understandable by the students. What they may not realize is the manner in which they are being instructed was carefully concocted so as to result in a marketable result.

It is well recognized the demand for qualified coders is expanding much faster than students are being trained by universities. The Institute of Science and Technology, the not-for-profit organization behind Acellus, has launched the STEM-10 initiative targeting 3rd grade students as the first step in making them professional coders by the time they reach high school graduation.

The major courseware development project at IST will release another step in the training program each year until all 10 steps have been released. The 3rd-graders starting the program this year will be able to progress as each step emerges year after year until completing all 10 steps by the year 2027. Each year a new crop of 3rd grade students will enter into the pipeline. In that way, IST projects that 500,000 coding graduates will emerge from the program each year starting in 2027. These graduates will represent greater diversity, including women and minorities, than what typically results from conventional programs.

The primary objective of the STEM-10 initiative is to prepare students for coding jobs upon graduation from high school. A concurrent major initiative of IST, called CTE-100, is creating courses to prepare high school students for careers in 100 CTE fields. Courses for 20 careers have already been filmed and are in use by schools throughout the nation. Courses for the remaining 80 careers will be filmed and released over the next 36 months. For each career, two years of course work are being created. The curriculum for these courses follows state CTE guidelines, but also relevant industry standards with the idea that students will be qualified, upon completion, to take industry recognized certification exams. This will open the way for them to move into entry level positions in these fields right out of high school. The courses which are already filmed and released, include heating and air-conditioning, electrical, and plumbing.

Too many students are dropping out of high school, not planning to attend college, and having no reason to go through the effort of completing a degree. With the opportunity of completing high school with a hireable vocation, a significant number of these students are being persuaded to stay in school to be able to enter a profitable career.

The problem with coding is that an employable coder cannot be properly trained in just two years. Hence, the decision to train students for 10 years beginning in the 3rd grade. Studies show that this approach will especially be beneficial to female and minority students that might otherwise lack the early exposure to technology which is required to become proficient in the field.

It is not expected that the STEM-10 initiative will detrimentally impact the number of students going on to attend college. When students enter college already proficient in coding, it will be to the delight of their professors. Universities will be allowed to focus the college years on teaching advanced levels of programming and engineering which, of course, is their real charter.

Quotes

"Our school district was chosen to be one of the early test sites for the Acellus STEM-10 learning system. We already had a significant deployment of Acellus in our district. We are very excited about the STEM-10 initiative. Giving our students the opportunity to become proficient in coding, and thereby qualified for high level employment right out of high school is a very exciting opportunity."

Carey Cunningham, Virtual School Coordinator - St. Louis School District, MO

"The Acellus STEM lab and STEM-10 program has changed the momentum of STEM education in Edgewood ISD and opened the path for real STEM careers. The STEM-10 initiative is also ideal for many Special Education students, particularly those diagnosed with autistic spectrum disorder."

Dr. Emilio Castro, Superintendent - Edgewood Independent School District, TX

"The STEM-10 initiative is going to help make America great. To become proficient in coding and similar technology, one must start at an early age. While some few are drawn to technology in their youth, most are not. Starting with a broad deployment in the 3rd grade and building upon that start year after year will result in many more trained and capable graduates, especially in the case of women and minorities. In ten years the demand for these abilities will be far greater than anyone can imagine, not only to be able to run our own telephones, and smart devices, but also to be able to develop the new products and applications of the day."

Dr. Roger Billings, Acellus Chairman

About Acellus

The Acellus Learning System is a widely used program for teaching students in grades K-12. It was developed by the International Academy of Science as part of the IST graduate school program. Acellus currently has over 300 course offerings in all core subjects including AP, CTE, and STEM.

Acellus courses are filmed in high definition with some of the very best teachers in the nation. Each lesson is filmed to cover one concept and kept as short as possible to retain student concentration. After each video lesson, the students are presented with assessment questions to evaluate their degree of understanding of the concept of that lesson.

The reason that Acellus has been found to be more effective than other online video systems is the use of an amazing new technology called Prism Diagnostics™. In Prism Diagnostics, Acellus uses cutting edge technology to determine where students have holes in their background knowledge that are making it difficult for them to learn a particular concept. In the same way that a prism splits light into a spectrum of colors, Prism Diagnostics splits students into groups, or spectrums, based on similar deficiencies or holes in their background knowledge. When a student falls into one of these spectrums, Customized Personal Instruction (CPI) is instantly delivered for that precise defect, filling in the gap in the students' knowledge so they can move forward with confidence.

The Acellus Learning System is currently deployed online in blended-learning, team-teaching, special education, gifted, credit recovery, home school, and other uses.

About IST

The [Institute of Science and Technology](#) is the higher education arm of the not-for-profit [International Academy of Science](#). It offers graduate school programs that provide training in science and technology, as well as training in business, finance, patent law, management, and marketing. These applied education programs provide students with the opportunity to gain hands-on experience in solving real-world challenges. Students having completed these studies are highly qualified to seek careers in applied science and entrepreneurship and are awarded the Doctor of Research Degree. Because of their practical knowledge, these graduates are in high demand.

For more information, please visit science.edu.