Microsoft Computer Science Offerings

Creative Coding through Games & Apps

Creative Coding Through Games and Apps (CCGA) is Microsoft's free first-semester course to introduce computer science in the early secondary grades. The course is designed to attract a broad range of students, including those who may have never before considered computer science. CCGA may be taught successfully by any teacher, regardless of computer science background. The course runs on any modern web browser on any device. The course length is flexible (6, 9, 12, or 18 weeks) and provides a flexible combination of online and in-class resources. The downloadable CCGA curriculum provides everything you need to deliver the course, including teacher prep materials, lesson plans, presentations, student assignments, homework, projects, and tests. Best of all, it's free! There is a second semester CCGA course in development now and there will be a CCGA MTA exam available in 2017.

CCGA Professional Development - Microsoft is now offering free professional development for educators interested in teaching CCGA. There is an online course *Preparing to Teach CCGA*, free educator one and two day workshops to help teachers become familiar with *Creative Coding Through Games and Apps*. The workshops give an introduction to the CCGA curricular materials and the computer science skills, concepts and coding platform used in the course. Go to http://aka.ms/msteacheracademy for more information and to register for a workshop near you.

CS50 AP Computer Science

CS50 AP is a Harvard-inspired, challenging journey that prepares students for the AP CS Principles exam. This year long course covers programming as well as real-world problem solving and algorithm building. The units are released on a rolling basis and are available through the CS50 AP Wiki: http://cs50.wiki/This+is+CS50+AP.

Computer Science for Camps, Clubs and Classrooms

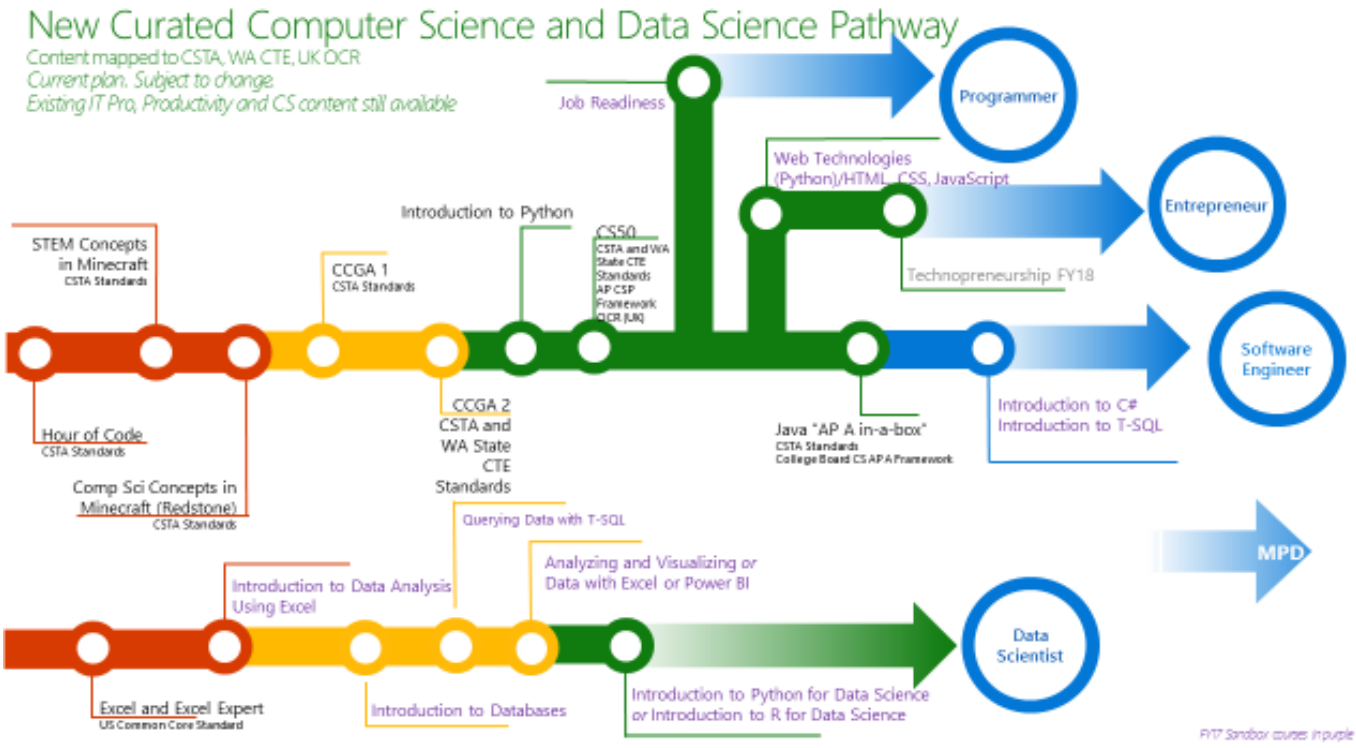
The curriculum packages described in the table below include everything needed to deliver brief but complete computer science learning experiences in classrooms, camps, clubs, libraries, etc. The curriculum packages leverage and extend direct-to-student tutorials from Microsoft that have already proven to be popular in the marketplace. And the curriculum packages are designed for easy uptake by instructors with little or no computer science background, addressing a primary challenge and obstacles faced by most schools, youth and community organizations today.

These brief, easy-to-use curriculum packages open the door for further engagement with complete Microsoft courseware, providing student pathways to college and career readiness in technical fields. We are excited to add this small contribution to Microsoft's powerful, growing story for Computer Science education!

All resources in the table below are now available via the hyperlinks provided.

SELF-STUDY: online tutorials designed to be consumed directly by learners				
Name	**Learning level**	**Length**	**Description**	**Language availability** ***Languages beyond English available May 2016***
Minecraft Tutorial	Beginners age 8 and up	An hour or less	Use blocks of code to take Steve or Alex on an adventure through this Minecraft world.	ARA, CHS, DEU, DUT, ENU, FIN, FRA, IND, ITA, HIN JPN, KOR, LAS, POL, PTB, RUS, SWE, THA, TUR, VIE *(all languages now available)*
Coding Jetpack Jumper	Beginners age 8 and up	An hour or less	Fix a game through a simple set of challenges so a crazy robot can make it through a maze of wacky obstacles.	ARA, CHS, DEU, DUT, ENU, FIN, FRA, IND, ITA, HIN JPN, KOR, LAS, POL, PTB, RUS, SWE, THA, TUR, VIE
Flatverse	Intermediate coders age 12 and up	An hour or less	Create your very own game on any device you want by helping Bot, the world's most adventurous robot explorer, get unstuck in FlatVerse!	ARA, CHS, DEU, DUT, ENU, FIN, FRA, IND, ITA, HIN JPN, KOR, LAS, POL, PTB, RUS, SWE, THA, TUR, VIE
INSTRUCTOR-LED: curriculum packages designed for facilitated learning in schools, libraries, camps, clubs, etc.				
Facilitate your own Hour of Code	Beginners of all ages	1-2 hours	Use Microsoft facilitator materials and training to lead any group of students through an hour or more of code using the *Minecraft Tutorial*, *Coding Jetpack Jumper*, or *Flatverse*.	ARA, CHS, DEU, DUT, ENU, FIN, FRA, IND, ITA, HIN JPN, KOR, LAS, POL, PTB, RUS, SWE, THA, TUR, VIE
Jetpack Jumper for Classrooms, Camps and Clubs	Beginners age 8 and up	1-3 hours	All necessary lesson plans and student learning resources to extend computer science learning from *Coding Jetpack Jumper* in your classroom, library, camp or club.	ARA, CHS, DEU, DUT, ENU, FIN, FRA, IND, ITA, HIN JPN, KOR, LAS, POL, PTB, RUS, SWE, THA, TUR, VIE
Dream it, Make it for Classrooms, Camps and Clubs	Beginners age 12 and up	5 hours	Supplement computer science learning from *Coding Jetpack Jumper* by adding practice with the real-world skills for design, collaboration, and customer service that real-world developers use every day!	ARA, CHS, DEU, DUT, ENU, FIN, FRA, IND, ITA, HIN JPN, KOR, LAS, POL, PTB, RUS, SWE, THA, TUR, VIE
Kodu Makerspace	Beginners age 8 and up	8 hours	A spiraling sequence of introductory computer science exploration and *Kodu Game Lab* creation for very young learners.	ENU only in FY16. Potential localization in FY17 TBD.

Make Your Own Game - Learn to Code Flatverse!	Intermediate coders age 12 and up	8 hours	All necessary lesson plans and student learning resources to extend computer science learning from *Flatverse* in your classroom, library, camp or club.	ARA, CHS, DEU, DUT, ENU, FRA, JPN, KOR, LAS, PTB
Creative Coding Academy	Intermediate coders age 12 and up	20 Hours	An introduction to computer science designed for learners age 12 and up. Students learn by designing, programming and publishing mobile apps and games. Learning to code by creating real products, students discover how to make amazing things and have an impact on their world!	ARA, CHS, DEU, DUT, ENU, FRA, JPN, KOR, LAS, PTB



Microsoft Computer Science Curriculum Roadmap