Microsoft

Microsoft Imagine Academy Computer Science

Why Computer Science?

More than 50% of today's jobs require some degree of technology skills, and experts say that percentage will increase to 77% in the next decade.

US Bureau of Labor Statistics

60% of the STEM jobs are in Computer Science, yet only 2% of STEM grads fill the pipeline. The Computer Science skills gap in STEM is critical to the future.

National Association of Colleges and Employers
Job Outlook 2015

Computing jobs comprise 73% of annual new U.S. STEM jobs through 2020.

US-BLS Employment Projections, 2010-2020

The Computer Science area of study helps students learn essential skills for college and careers:

- Problem Solving
- Critical Thinking
- Data Analysis
- Computational Thinking

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Provide students with hands-on experience creating new software and applications, and develop the critical-thinking and computational skills for life and careers in the digital world.

Society runs on technology. Whatever field students pursue for work or school, success increasingly depends on knowing how technology works. In fact, jobs requiring computer science skills outnumber trained graduates by 3-to-1, yet 90% of schools don't teach it. Reverse the trend and prepare your students for success with the Microsoft Imagine Academy Computer Science curriculum.

Bring Computer Science into Any Classroom

The Microsoft Imagine Academy Computer Science curriculum provides engaging and flexible learning tools that guide any student from foundational computer science concepts to advanced programming techniques.

The program comprises instructor-led lessons, independent online learning, programming environments, and certification preparation—all the tools to pique students' interest in computer science; instill fundamental programming concepts; and expand course offerings into specialized study topics, including software development, web development, gaming, and more.

Students with a strong aptitude in Computer Science can demonstrate college and career readiness by earning Microsoft Technology Associate (MTA) and Microsoft Certified Professional (MCP) Certifications.

Institution get:	Students get:	Educators get:
• Real-world relevant curriculum to enhance STEM programs	• An engaging way to learn core technology concepts	• Relevant curriculum designed by technology education experts
• A proven method to bridge academic and real-world skills	• A head start on college and workforce readiness	• A variety of teaching resources, software, and assessments tailored for experience levels
• Tools to improve student engagement and success	• Valuable credentials for college and career recruiters	• Classroom-proven methods to engage and inspire students

Access Immersive Learning Tools to Teach Essential 21st Century Skills.

Interactive Learning Experiences for Beginners

Learn to Code Series: Whether students are new to coding, studying it in school, or planning for a career, students can dream big, build creatively, and boldly bring their ideas to life.

The Hour of Code™ is a nationwide initiative by Computer Science Education Week and Code.org to introduce millions of students to one hour of computer science and computer programming. Microsoft is excited about helping students take the first steps on their journey. Microsoft provides several Hour of Code™ courses for students to learn, utilizing TouchDevelop, an easy-to-use visual game designer. These include:

- **Jetpack Jumper:** Students control a crazy robot trying to make it through a maze of wacky obstacles.
- **Flatverse**: Return to the world of Jetpack Jumper with a two-dimensional world that needs fixing through code.
- **Minecraft Hour of Code™**: Use blocks of code to take Steve or Alex on an adventure through this Minecraft world.

"Dream it. Make it." Classroom Extension for Hour of Code™ with TouchDevelop. A 5-hour instructor-led course that transforms the classroom into a game development start-up. Students create a game by customizing features based on "customer" feedback from other students, then publish a fully playable game.

Learn to Code with CODExist: The Birth of Bot. An 8-hour modular video-on-demand course that walks students through building a mobile game from scratch using TouchDevelop, expanding programming concepts with assignments suitable for homework or flipped classroom environments.

Learn to Code with CODExist: Bot Levels UP. In this mobile game development course, students experience firsthand how to provide a player with instructions, make gameplay more challenging, add graphic effects and animations, use variables and cloud data, publish and share a game.

Immersive Hands-On Learning for Advancing Students

Creative Coding through Games and Apps (CCGA) is a semester-long introduction to programming course that maps to the Computer Science Teachers' Association (CSTA) standards. Students gain hands-on experience designing, programming, and publishing mobile games and apps.

Harvard's CS50 Computer Science Principles is a Harvard course on Introduction to Computer Science and the art of programming modified to fit high school/secondary school calendars and includes additional resources for teachers. Focuses on fundamentals of computing, problem solving, data, the Internet, cybersecurity, and programming. For use with or without AP designation/exam. The course is in pilot phase currently with full roll-out details coming later this year. Curriculum units for the course are being released on a rolling basis.

Know it. Prove it. (KiPi) "Classroom Edition" helps drive awareness of STEM/CS into the classroom. Comes complete with a kit for educators to run a short-term learning challenge for their students. The curriculum is based around training for MTA and MCP developer exams. Use this solution to enhance discussions around certification preparation.

Introduction to Programming with Python is an independent study course providing a fast-paced and comprehensive introduction to programming for students (ages 15-18) naturally curious about programming. Students learn universally-applicable fundamentals using Python as a programming language and Visual Studio as an integrated development environment (IDE).

Java Programming Fundamentals provides a series of 12 independent, online activities for high school students that can be used to introduce or review Java programming topics. Students complete Office Mix lessons and Code Hunt interactive challenges solved by writing Java code.

Microsoft Technical Certifications for College and Career-Bound Students

With a subscription to the Microsoft Imagine Academy program, students with a strong aptitude in Computer Science can demonstrate college and career readiness by earning Microsoft Technology Associate (MTA) and Microsoft Certified Solutions Developer (MCSD) Certifications. Microsoft Academic Official Courses (MOAC) provide eBooks, lab manuals, and instructor resources to plan, prepare, and teach courses for MTA certification preparation. Taught over 6-to-16 weeks, the MTA Development Track covers Software Development Fundamentals (98-361) and HTML5 Application Fundamentals (98-375). Taking one of the exams below earns Microsoft Technology Associate (MTA) certification on the Development Track.

| MTA Development Track | 98-361: Software Development Fundamentals

98-375: HTML Application Development Fundamentals | *Pass Any One Exam to Earn*
► **Microsoft** Technology Associate | *Entry to Advanced Certifications*
► **Microsoft** C E R T I F I E D Solutions Developer |

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Contact your Academic Licensing Reseller or visit: www.microsoft.com/imagineacademy

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