In the digital age, computational thinking (CT) is an essential skill for students and educators alike. This systematic approach to solving problems is at the foundation of not just computer science, but many other subject areas – and careers – as well.

Introduction to Computational Thinking for Every Educator is ISTE U’s FREE premier online professional learning course that unpacks how educators can integrate CT throughout all subject areas and grade levels.

Through this course, educators will:

• Increase their awareness of CT.
• Experiment with CT-integrated activities for all subject areas.
• Collaborate with other educators to build their own CT skills.
• Create a plan to incorporate CT into their curriculum.

Learn more and enroll at iste.org/CTcourse

Course details

• Grade Level: K-12
• Course length: 15 hours
• Cost: FREE
• Structure: Self-paced with ongoing instructor support

Developed with support from:

Google for Education
Course Flow

• Module 1: Introduction to Computational Thinking
• Module 2: Exploring Algorithms
• Module 3: Finding Patterns
• Module 4: Developing Algorithms
• Module 5: Applying Computational Thinking

Connected to ISTE’s Computational Thinking Competencies

This course helps educators address several indicators in the ISTE Computational Thinking Competencies, including:

| LEARNER 1.a. | Set professional learning goals to explore and apply teaching strategies for integrating CT practices into learning activities in ways that enhance student learning of both the academic discipline and CS concepts. |
| LEARNER 1.b. | Learn to recognize where and how computation can be used to enrich data or content to solve discipline-specific problems and be able to connect these opportunities to foundational CT practices and CS concepts. |
| LEARNER 1.d. | Develop resilience and perseverance when approaching CS and CT learning experiences, build comfort with ambiguity and open-ended problems, and see failure as an opportunity to learn and innovate. |
| LEADER 2.c. | Choose teaching approaches that help to foster an inclusive computing culture, avoid stereotype threat and equitably engage all students. |
| COLLABORATOR 3.c. | Plan collaboratively with other educators to create learning activities that cross disciplines to strengthen student understanding of CT and CS concepts and transfer application of knowledge in new contexts. |
| DESIGNER 4.b. | Design authentic learning activities that ask students to leverage a design process to solve problems with awareness of technical and human constraints and defend their design choices. |
| DESIGNER 4.d. | Create CS and CT learning environments that value and encourage varied viewpoints, student agency, creativity, engagement, joy and fun. |
| FACILITATOR 5.c. | Use a variety of instructional approaches to help students frame problems in ways that can be represented as computational steps or algorithms to be performed by a computer. |

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About ISTE U

ISTE U is a virtual hub of best-in-class professional learning courses to help educators build critical skills for teaching and learning in a digital world. By working with leading educators and education organizations, ISTE U provides research-based, impactful, engaging courses that put pedagogy first and help you transform teaching and learning.

Graduate-level credit

Participants in ISTE U courses can earn graduate-level credit for an additional fee with one of ISTE’s accredited graduate-level credit partners.

See the entire course catalog at iste.org/ISTEU. Need more information? Email isteu@iste.org.