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## District of Columbia Program Standards for Teacher Preparation

### Educational Computing and Technology Standards

*Institutions and Organizations seeking State Approval for programs which prepare and result in the recommendation of candidates for licensure as Educational Computing and Technology Teachers shall be required to demonstrate that they meet the following program standards. The Standards below are an adapted version of the 2001 standards of the International Society for Technology in Education (ISTE) and the National Educational Technology Standards (NETS) for Teachers for the preparation of Educational Computing and Technology Teachers.*

**Standard 1: Programming and Algorithm Design**

Candidates will demonstrate proficiency in programming that requires the use of data abstraction to solve non-trivial programming problems in multiple programming paradigms.

**Standard 2: Computer Systems--Components, Organization, and Operation**

Candidates will demonstrate in-depth knowledge of how computer systems work individually and collectively.

**Standard 3: Data Representation and Information Organization**

Candidates will demonstrate an understanding of data and information representation and organization at a variety of levels--machine level representation (for program correctness); data structures (for program implementation); problem representation (for solution design); files and databases (for general applications); and interactions among systems and people (for overall system design and effectiveness).

**Standard 4: Social Aspects of Computing**

We live within a cultural environment and interact daily with other people. Computing specialists need to communicate and work with each other and with non-specialists. Specialists and non-specialists need to be cognizant of issues and risks related to computing in our society and to learn independently as new developments in technology arise.

**Standard 5: Planning Instruction**

Candidates will demonstrate an understanding of the teaching tasks and approaches and be able to apply and evaluate them with respect to the students in their computer science classes. Evidence of these capabilities should include examples of student performance resulting from this planning.

**Standard 6: Classroom and Field Experiences in Computer Science--Delivering Instruction**

Candidates will observe and participate in instructional planning and delivery in secondary computer science classrooms. Evidence should include some examples of effects on student performance.

**Standard 7: Classroom & Course Management**

Candidates will apply methods and skills appropriate to the management of the secondary computer science classroom. Evidence should include some examples of effects on student performance.

**Standard 8: Instructional Assessment**

Reflection upon one's own performance as a teacher is essential for improving that performance. Thus, teacher candidates will examine and work to improve their teaching practice. Assessing secondary student performance is essential to determining success in teaching practice, as well.

**Standard 9: Professional Development**

Candidates must recognize and plan for ongoing professional development that will be needed to sustain themselves and their students.