

IX.C.

CONNECTICUT STATE BOARD OF EDUCATION Hartford

TO BE PROPOSED:
December 4, 2019

RESOLVED, That the State Board of Education, pursuant to subsection (b) of Section 10-145f of the Connecticut General Statutes, adopts the Educational Testing Service (ETS) Praxis Test for Computer Science and the ETS recommended cut score for the test, effective January 2, 2020, for any person seeking certification in such area, unless the person meets requirements for an exemption from such testing requirements as provided in subsection (f) of Section 10-145f of the Connecticut General Statutes, and directs the Commissioner to take the necessary action.

Approved by a vote of _____, this fourth day of December, Two Thousand Nineteen.

Signed: _____
Dr. Miguel A. Cardona, Secretary
State Board of Education

CONNECTICUT STATE BOARD OF EDUCATION
Hartford

TO: State Board of Education

FROM: Dr. Miguel A. Cardona, Commissioner of Education

DATE: December 4, 2019

SUBJECT: Adoption of the Educational Testing Service (ETS) Computer Science Test and the ETS Recommended Cut Score

Executive Summary

Introduction

This report presents background information and a rationale for the recommendation of the adoption of the Educational Testing Service (ETS) Computer Science Test for the measurement of content knowledge required for issuance of a computer science endorsement certification and the ETS recommended cut score for the test. The proposed implementation date of the ETS Computer Science Test is January 1, 2020.

History/Background

The United States Department of Labor predicts that computer science-related jobs will be among the fastest growing and highest paying over the next decade. According to the Department, computer and information technology occupations are projected to grow 12 percent from 2018 to 2028, much faster than the average for all occupations. Due to myriad technical innovations (e.g., “cloud” computing), the collection and storage of big data, and information security concerns, computer science workers are increasingly in demand. The Department of Labor also reports that the median annual wage for computer and information technology occupations was approximately \$86,000 in May 2018. Additionally, computing-related jobs are among the highest entry-level salaries of any bachelor's degree.

Consequently, interest in K-12 computer science education has increased rapidly. Since January 2019, 33 states have passed legislation to expand access to K-12 computer science education, including Connecticut. Subsection (e) of Section 10-145d of the Connecticut General Statutes requires the Connecticut State Board of Education (CSBE) to adopt regulations to provide standards for certifying computer science teachers and create a computer science endorsement by July 1, 2020. As first steps in this process, the law also requires the CSBE to approve and adopt a subject area assessment for computer science for purposes of certification by January 1, 2020.

On October 8, 2019, the Connecticut State Department of Education (CSDE) convened a representative panel of eight educators representing Connecticut educator preparation programs

and K-12 schools (see Appendix A) to review computer science test options from two leading testing companies and make recommendations relative to test adoption. Panel members were selected based on representation of educator preparation programs and K-12 education; regional, racial, ethnic and gender diversity, and certification and experience relevant to the test review content area. The two testing companies were ETS and Pearson.

The test review meeting was facilitated by CSDE consultants. During the meeting, representatives from each testing company presented an overview of test development procedures and reviewed test content for each of the two tests being considered by the panel, including the multistate standard-setting process by which a recommended cut score value was calculated for each test. Panelists were then asked to use their experience and professional judgment to determine the appropriateness of each test for a Connecticut computer science endorsement.

Two primary concerns were raised by the panel regarding the adoption of a test for measuring content knowledge for a computer science endorsement. First and foremost, the panel discussed adopting a test that would establish rigorous content knowledge standards for educators of computer science. Second, the panel discussed adopting a test that represents the content knowledge base required for the rapidly changing, dynamic nature of the computer science field.

Due to these concerns, the panel unanimously voted to recommend that Connecticut adopt the ETS Praxis Test for Computer Science. The ETS Praxis Test is a three-hour test consisting of 100 selected-response items covering five major content categories: (1) Impacts of Computing (15 items); (2) Algorithms and Computational Thinking (25 items); (3) Programming (30 items); (4) Data (15 items); and (5) Computing Systems and Networks (15 items). Based on a multistate standard-setting study, ETS has recommended a passing score of 47 out of a possible 80 raw-score points. The scale score associated with a raw score of 47 is 149 on a 100–200 scale.

Recommendation and Justification

Based on the panel recommendation, the CSDE recommends the adoption of the ETS Computer Science Test for the measurement of content knowledge required for issuance of a computer science endorsement certification and the recommended ETS cut score for the test. The proposed implementation date of the ETS Computer Science Test is January 1, 2020.

Follow-up Activity

Upon CSBE adoption of the ETS Computer Science Test and the recommended ETS cut score, the CSDE will send notification to the appropriate administrators at Connecticut educator preparation providers, including alternate route to certification programs, outlining the new testing requirements and implementation date. Additionally, the CSDE will update the CSDE certification website with the new testing requirements.

Prepared by: Katie Moirs, Ph.D., Program Approval Coordinator, Talent Office

Approved by: Christopher M. Todd, Bureau Chief, Talent Office

Attachment A

**Panel Members
Computer Science Test Review
October 8, 2019**

Panel Participant	Position	Affiliation
Timothy Barron	High School Teacher	Farmington Public Schools
Jon Bishop	Middle School Teacher	Canton Public Schools
Paul Brenton	Assistant Superintendent of Curriculum and Instruction	Killingly Public Schools
Jacqueline Corricelli	High School Teacher	West Hartford Public Schools
Heather Sutkowski	Elementary Education Teacher	Capitol Region Education Council
Paul Viscinus	Assistant Superintendent of Curriculum and Instruction	West Hartford Public Schools
Chinma Uche	High School Teacher	Capitol Region Education Council
Winnie Yu	Higher Education – Faculty, Computer Science	Southern CT State University