A Bill

For An Act To Be Entitled

ACT TO REQUIRE EACH PUBLIC SCHOOL AND PUBLIC CHARTER SCHOOL TO OFFER A COURSE IN COMPUTER SCIENCE; PROVIDE FUNDING FOR THE PROFESSIONAL DEVELOPMENT OF COMPUTER SCIENCE TEACHERS; AND ESTABLISH COMPUTER SCIENCE STANDARDS AND PATHWAYS FOR STUDENTS.

BE IT ENACTED BY THE [STATE LEGISLATIVE ENTITY] OF THE STATE OF XXXX:

SECTION 1. DEFINITIONS.

(a) Computer Science means the study of computers and algorithmic processes, including their principles, their hardware and software designs, their implementation, and their impact on society. Content should focus on teaching students how to create new technologies, not simply use technology.

(b) Computer Science Courses and Content means courses that teach computer science either as standalone implementations or, for elementary and middle school, embedded in other subjects.

(c) High-quality professional learning means professional development activities that:

   (1) clarify the conceptual foundations of computer science,

   (2) teach research-based practices, including hands-on and inquiry-based learning, and

   (3) are intended for existing teachers with or without prior exposure to computer science.

(d) High-quality professional learning providers means institutions of higher education, non-profits, or private entities that have successfully designed, implemented, and scaled high-quality computer science professional learning for teachers as defined in subsection (c) and approved or recommended by the State Board of Education in coordination with the State Department of Education.

SECTION 2. State XXXX Code Title X, Chapter X, Subchapter X, is amended to read:
X-XX-XXX. Computer science — Required course offering.

(a) Beginning in the [DATE] school year, each public high school or public charter high school shall offer at least one (1) computer science course.

(b) Beginning in the [DATE] school year, each public middle school or public charter middle school shall offer instruction in exploratory computer science.

(c) Beginning in the [DATE] school year, each public elementary school or public charter elementary school shall offer instruction in the basics of computer science and computational thinking.

(d) A computer science course(s) or instruction in computer science offered by a public school or public charter school shall:

   (1) Be of high quality, as defined by the State Board of Education; and

   (2) Meet or exceed the standards and curriculum requirements established by the State Board of Education.

(e) Further, a computer science course offered by a public high school or public charter high school should be offered in an in-person setting, and be offered as a virtual or distance course option only when a traditional classroom setting is not feasible.

SECTION 3. COMPUTER SCIENCE PROFESSIONAL DEVELOPMENT.

(a) Subject to legislative appropriation, funds shall be appropriated to eligible entities to develop and implement teacher professional development programs for the required computer science courses and content, as defined in Section 1.

(b) For the purposes of this Section, eligible entities include:

   (1) A local educational agency, or a consortium of local educational agencies, in the state, including public charter organizations;

   (2) High-quality computer science professional learning providers, including institutions of higher education in the state, non-profits, or private entities working in partnership with local education agencies.

(c) Eligible uses of the funding are as follows:

   (1) High-quality professional learning for K-12 computer science content (including travel to workshops)
(2) Credentialing for K-12 computer science teachers (including CTE and academic supplemental endorsements)

(3) Supports for K-12 computer science professional learning, including mentoring and coaching

(4) Creation of resources to support implementation

(5) Student recruitment

(d) As a condition of receiving the funds, eligible entities must submit an application to the State Department of Education. The application must, at a minimum, address how the entity will:

(1) Reach new and existing teachers with little to no computer science background;

(2) Use research- or evidence-based practices for high-quality professional development;

(3) Focus the professional learning on the conceptual foundations of computer science;

(4) Reach and support historically underrepresented students in computer science;

(5) Provide teachers with concrete experience with hands-on, inquiry-based practices;

(6) Accommodate the particular teacher and students needs in each district and school; and

(7) Ensure that participating districts shall begin offering the course(s) and/or content within the same or next school year after the teacher receives the professional learning.

(e) Priorities for Awards. The State Department of Education shall prioritize the following applications:

(1) Local education agencies that are working in partnership with providers of high-quality professional learning for K-12 computer science.

(2) Proposals that describe strategies to enroll females and underrepresented minorities, students on free and reduced lunch, students with disabilities, and English language learners.
(3) Proposals from rural or urban areas with a low penetration of K-12 computer science offerings, including local education agencies that partner together to form clusters of implementation.

(f) Any monies remaining in the fund at the end of the fiscal year shall not revert to the credit of the general revenue.

(g) Metrics. The award recipient shall report annually, at a minimum:

1. the number of teachers prepared,
2. students reached,
3. gender, racial, and socioeconomic diversity of those students,
4. number and diversity of students with passing AP exam scores for high school AP courses once that data is available, and
5. number of teachers that started implementing computer science (limited to middle and high school implementation) versus the number of prepared teachers that attended professional learning.

The State shall make these reports public.

SECTION 4. ESTABLISHMENT OF COMPUTER SCIENCE STANDARDS.

(a) Prior to the beginning of the [DATE] school year, the State Board of Education and Department of Education shall develop rigorous K-12 computer science standards and shall consider existing computer science frameworks and content standards, which include, but are not limited to, the K–12 Computer Science Framework and the K–12 computer science content standards developed by the Computer Science Teachers Association.

--- OPTIONAL ---

SECTION 5. TEMPORARY LANGUAGE. DO NOT CODIFY. COMPUTER SCIENCE EDUCATION TASK FORCE -- CREATION, MEMBERSHIP, AND DUTIES.

(a) The board shall establish a computer science education task force to develop a state strategic plan for expanding computer science education in elementary and secondary schools.
(b) The computer science education task force shall include representatives of:

(1) the board of education;

(2) the state department of education;

(3) industry;

(4) nonprofit organizations;

(5) school superintendents association;

(6) the Governor’s STEM Action Center [IF APPLICABLE];

(7) the Governor’s Education Advisor;

(8) the system of higher education;

(9) legislators from the house and senate; and

(10) a teacher leader from a statewide association representing computer science teachers.

(c) The board, in consultation with the computer science education task force created in Subsection (b), shall develop a state strategic plan for a statewide computer science education program, including the following:

(1) a statement of purpose that describes the objectives or goals the board will accomplish by implementing a computer science education program, the strategies by which those goals will be achieved, and a timeline for achieving those goals;

(2) a summary of the current state landscape for K-12 computer science education, including diversity of students taking these courses;

(3) a plan for expanding computer science education opportunities to every school in the state within 5 years;
(4) a plan for the development of rigorous standards and curriculum guidelines for K-12 computer science, including ways to incorporate computer science into existing standards at the elementary level, as appropriate;

(5) a plan for defining high quality professional learning for teachers to begin teaching computer science;

(6) an ongoing evaluation process that is overseen by the board;

(7) proposed rules that incorporate the principles of the master plan into the state's public education system as a whole; and

(8) a plan to ensure long-term sustainability.

(d) On or before [DATE], the board shall present the board’s state strategic plan described in Subsection (c) to the relevant legislative committees.

(e) The computer science education task force expires on [DATE, GENERALLY 1 YEAR AFTER THE DEADLINE IN SUBSECTION (D)].

SECTION 6. STATE COMPUTER SCIENCE SUPERVISOR POSITION.

(a) The state department of education shall create a computer science supervisor position. The computer science supervisor shall be responsible for carrying out the work of this bill within the department, including the development and implementation of the computer science education strategic plan.

(b) [INCLUDE STATE-SPECIFIC REQUIREMENTS HERE, INCLUDING THE COST FOR THE POSITION]

SECTION 7. TEACHER CERTIFICATION.

(a) Before [DATE], the state board of education shall create an endorsement in computer science for all teachers who hold a valid license pursuant to this part and demonstrate sufficient content knowledge in the course material, as determined by the state board of education.

SECTION 8. MAKING COMPUTER SCIENCE COUNT.

(a) The department of education shall, before [DATE], develop a high school graduation policy that allows a student to fulfill one unit of academic credit with a district-approved
a computer science course for any math or science unit required for high school graduation.

(b) Beginning with the graduating class of 2022, a computer science course successfully completed under part (a) of this section shall be equivalent to either:

1. one mathematics course; or
2. one science course;

for the purpose of satisfying the university's freshman admission requirements as determined by the university.

SECTION 9. INCENTIVES FOR PRE-SERVICE TEACHER PREPARATION.

(a) The [STATE APPROPRIATIONS ENTITY] shall create and appropriate funds for a scholarship program for pre-service teachers to take a course in computer science. A pre-service teacher enrolled in a state accredited institution of higher education and working towards a degree to become qualified to teach any K-12 subject may receive a [$1000] scholarship after successful completion of one course in computer science.

(b) The [STATE APPROPRIATIONS ENTITY] shall appropriate funds to eligible preservice education programs in the state to develop and implement pathways in computer science education. The pathways would prepare an enrolled pre-service teacher to add a certification to teach computer science education to their intended major and area of certification. The pathways would be open to pre-service teachers at both secondary and elementary levels, and may include collaborations among schools of computer science, schools of education, and non-profit organizations.

--- Additional Guidance ---

- Models for Funding Professional Learning, including considerations for high-quality professional learning.
- A calculator that models the cost of preparing a teacher in each school in the state.
- The K-12 Computer Science Framework, which can be used by states to develop standards.
- The Computer Science Teachers Association (CSTA) K-12 Computer Science Standards can be found here.