NEW MEXICO COMPUTER SCIENCE STRATEGIC PLAN

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ACRONYM KEY

CCRB .... COLLEGE & CAREER READINESS BUREAU

CSA .... COMPUTER SCIENCE ALLIANCE

CSTA-NM .... COMPUTER SCIENCE TEACHERS ASSOCIATION OF NEW MEXICO

CSTF .... COMPUTER SCIENCE TASK FORCE

EGD .... EDUCATION GROWTH & DEVELOPMENT BUREAU

HEI .... HIGHER EDUCATION INSTITUTION

IMB .... NSTRUCTIONAL MATERIALS BUREAU

LEA .... LOCAL EDUCATION AGENCY

LGX .... NEW MEXICO LEGISLATURE

MSB .... MATH & SCIENCE BUREAU

PED .... NEW MEXICO PUBLIC EDUCATION DEPARTMENT

PLA .... POLICY & LEGISLATIVE AFFAIRS

PSB .... PRIORITY SCHOOLS BUREAU

COMPUTER SCIENCE VISION STATEMENT
New Mexico guarantees a K–12 computer science education to ALL students, which provides the skills to participate as digital citizens and contribute to New Mexico's STEM economy.

COMPUTER SCIENCE MISSION STATEMENT
By 2026, the New Mexico Public Education Department will prioritize K–12 computer science education, to improve computational thinking, skills, and literacy.

INTRODUCTION

The New Mexico Public Education Department (PED) believes that computer science is vital for each student's educational pathway and that equitable access to computer science empowers individuals to skillfully navigate life, education, and career journeys. The PED further believes that a responsive educational and career preparation ecosystem adapts to not only growing STEM occupational demands, but also to the increasing technology knowledge, skills, and abilities required across all careers.

As part of Governor Michelle Lujan-Grisham's plan for providing students with varied pathways in STEM and post-secondary education, a computer science task-force was brought together in the fall of 2019 to develop a shared vision for computer science education in New Mexico and to provide recommendations to create a state strategic plan. The task-force was made up of individuals from across New Mexico invested in the improvement of computer science for the state's students and included Pre-K – 20 educators, students, legislators, industry partners and professional organizations. The group submitted its recommendations to the PED in early 2021, leading to completion of the computer science strategic plan in June of 2021.

The completed five-year plan includes actions for policy development, district implementation and supporting educators related to academic standards, teacher certification, course pathways, student access to programs and educator professional learning. The PED will develop, conduct and analyze data from a comprehensive needs assessment to determine a path forward, as a way to ensure stakeholder voice and meet state needs. Making this plan a reality will require collaborative efforts by the PED and multiple stakeholders and oversight to ensure success.

ADVISORY GROUP MEMBERS
WE WOULD LIKE TO THANK ALL OF THE INDIVIDUALS AND ORGANIZATIONS THAT MADE THIS DOCUMENT POSSIBLE

POLICY

The PED will lead by developing mechanisms to improve equity and access to CS for NM students and educators by focusing on creating teacher pathways for endorsement, developing course offerings, offering CS integration strategies and working to improve funding for CS.

GOAL	EXPECTED TIME RANGE	COLLABORATORS	CURRENT PROGRESS (STARTING, PROGRESSING, OR COMPLETED)
By 2026, teacher pathways for computer science endorsement will be created			
Create CS teacher competencies in NMAC	Jul 2021–Dec 2021	CCRB/MSB, PLA, EGD, CSTF	
Create CS teacher endorsement in NMAC and pathways (including experience, course work, Praxis)	Jul 2021–Dec 2021	CCRB/MSB, PLA, EGD, CSTF	
Support higher education institutions in creating CS teacher prep programs	Jan 2022 – Jun 2026	EGD, HEIs	
30 individuals are enrolled in a CS teacher prep program	Jun 2022–Jun 2026	HEIs	
Annual course review and audit process to ensure CS course offerings are in alignment with professional learning			
Update guidance for CS courses counting for math or science credit	Jul 2021–Aug 2021	CCRB/MSB	
Establish annual review and audit STARS manual for course descriptions and to determine courses that can be re-classified as CS courses	Sep 2021–Jun 2026	CCRB/MSB	
Develop courses in the STARS manual that count as part of a CS pathway for students	Mar 2022–Mar 2026	CCRB/MSB	

GOAL	EXPECTED TIME RANGE	COLLABORATORS	CURRENT PROGRESS (STARTING, PROGRESSING, OR COMPLETED)
By 2026, attain 7 out of 9 of Code.org Policy Principles			
Create a state strategic plan for CS	Feb–Jun 2021	CCRB/MSB, CSTF	Completed
Adopt CS standards	Dec 2018	PED	Completed
Allocate recurring funding for CS	Dec 2021–Mar 2023	CCRB/MSB, LGX	
Teacher endorsement in CS	Jul 2021–Dec 2021	CCRB/MSB, PLA, EGD, CSTA-NM, CSTF	
Designate dedicated CS staff at PED	Jan 2021–Jun 2021	CCRB/MSB	
All high schools offer CS courses	Aug 2021–Aug 2023	LGX, LEAs	
Allow CS to satisfy core graduation requirement	Apr 2018	PED	Completed
Developed K–12 integration recommendations that are integrated into NM DASH platform			
Designate CS specialists (K-8 and 6-12) at PED	Jan 2021–Jun 2021	CCRB/MSB	
Publish recommendations for CS integration in K–12	Jan 2022–Jun 2022	CCRB/MSB, PSB	
Publish a CS best practices framework and PL recommendations	Jan 2022–Jan 2023	CCRB/MSB	
By 2026, recurring funding from the legislature to support CS			
Work in partnership with legislators to create recurring legislative funding for CS targeting professional learning	Dec 2021–Mar 2023	PLA, LGX	
Work with legislature to create a teacher scholarship to incentivize CS program completion	Dec 2022–Mar 2025	PLA, LGX	

DISTRICT/CHARTER SCHOOL IMPLEMENTATION

Districts and charter schools are a strategic lever to increase computer science access K–12.

GOAL	EXPECTED TIME RANGE	COLLABORATORS	CURRENT PROGRESS (STARTING, PROGRESSING, OR COMPLETED)
By 2026, 50% of districts and charter schools will have a K–12 CS implementation plan in place, which may include community partnerships			
Provide field with strategic plan trainings (i.e. SCRIPT) each semester) □ Ensure community partnership research is included/highlighted	Jan 2022–Jun 2026	MSB/CCRB, CSA	
Collaborate across agency bureaus to determine method of submitting CS implementation plans	Jan 2022–Jul 2022	MSB/CCRB, PSB	
Analyze strategic plan training participation across all regions	Jul 2022–Jun 2026	MSB/CCRB, CSA	
Verify CS implantation plans are in place	Jul 2022–Jun 2026	MSB/CCRB	
By 2026, 25% of districts and charter schools offer a CS integrated course			
Review STARS manual to identify courses where CS can integrate (K–8)	Jun 2024–Jun 2025	MSB/CCRB	
Ensure K–8 PL opportunities are equitably provided □ Provide a menu of options □ Use HQIM and integrate CS to model and simulate □ Integrate computational thinking	Jul 2023–Jun 2026	MSB, CSA, CSTF	
Analyze effectiveness of integrated courses for CS learning	Jan 2023–Apr 2023 (annual)	MSB/CCRB	

GOAL	EXPECTED TIME RANGE	COLLABORATORS	CURRENT PROGRESS (STARTING, PROGRESSING, OR COMPLETED)
By 2023, every high school will offer a secondary CS course			
Identify which high schools offer a secondary CS course	Aug 2021–Nov 2021	MSB/CCRB, AP Coordinator	
Provide technical support based on needs assessment data (schools lacking programs, PL needs)	Jan 2022–Jan 2023	MSB/CCRB, PSB	
Expand access to Advanced Placement Computer Science course by all subgroups	Jan 2022–Apr 2023	LEA/AP Coordinator/CCRB	
Expand access to Advanced Placement Computer Science exam by all subgroups	Jan 2022–Apr 2023	LEA/AP Coordinator/CCRB	
Increase proficiency in Advanced Placement Computer Science exam by all subgroups	Jan 2022–Apr 2023	LEA/AP Coordinator/CCRB	
By 2026, every high school has CS and IT concentrators/completers			
Coordinate with IT to finalize STARS reports which calculate concentrators/completers.	Aug 2021–May 2022	CCRB Data Coordinator	
Provide PL through Canvas and technical assistance for LEAs on CS and IT concentrators and completers to include (Dual Credit, AP, Work Based Learning) across multiple audiences (Counselors, Administrators, Teachers…).	Oct 2021–May 2022	CCRB Coaches	

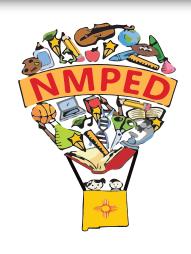| GOAL	EXPECTED TIME RANGE	COLLABORATORS	CURRENT PROGRESS (STARTING, PROGRESSING, OR COMPLETED)
50% of high schools will offer CS certifications for students			
Identify current CS courses in STARS that can lead to student certifications	Sept 2021–May 2022	MSB/CCRB	
Coordinate a working group to review student CS certifications	Aug 2022–May 2023	MSB/CCRB, CSTF	
Support implementation of school policies and procedures to accurately report earned student CS certifications	Aug 2021–Dec 2021	MSB/CCRB	
Modify or add new STARS student certifications	Aug 2021–Apr 2022	MSB/CCRB/IT	

EDUCATORS

Educators will play a critical role in providing computer science education to all K–12 students while improving the quality of students' computational thinking, skills, and literacy.
To do so, we believe New Mexico educators should have access to ongoing professional learning opportunities that lead to a computer science endorsement or computer science integration. We believe this includes fruitful working relationships between districts and schools to improve the quality of computer science education.

GOAL	EXPECTED TIME RANGE	COLLABORATORS	CURRENT PROGRESS (STARTING, PROGRESSING, OR COMPLETED)
By 2026, secondary educators are attending professional learning leading to secondary computer science endorsement or computer science integration			
100 New Mexico secondary educators earn a CS endorsement	Jan 2022–Jun 2026	MSB, CCRB, LEAs, CSTA-NM, CSA	
PL opportunities are distributed equitably across all regions of the state	Aug 2021–Jun 2026	MSB, CCRB, LEAs, CSTA-NM, CSA	
Offer incentives/stipends to teachers participating in PL	Aug 2021–Jun 2026	MSB, CCRB, LEAs	
Identifying appropriate grade-level PL (collaborate with PL vendor marketplace)	Aug 2022–Jun 2026	MSB, CCRB, LEAs, CSTA-NM, CSA, IMB	
Offer diverse PL that fits all teacher skills sets (novice to experienced)	Jul 2023–Jun 2026	MSB, CCRB, LEAs, CSTA-NM, CSA	
Introduce PL opportunities that integrate CS into secondary math classes	Aug 2022–Jun 2026	MSB, CCRB, LEAs, CSTA-NM, CSA	

GOAL	EXPECTED TIME RANGE	COLLABORATORS	CURRENT PROGRESS (STARTING, PROGRESSING, OR COMPLETED)
By 2026, there will be ongoing professional learning to integrate computer science in K-8			
100 New Mexico K–8 educators earn a CS endorsement	Jul 2023–Jul 2026	MSB, CCRB, LEAs, CSTA-NM, CSA	
PL opportunities are distributed equitably across all regions of the state	Jul 2023–Jul 2026	MSB, CCRB, LEAs, CSTA-NM, CSA	
Offer incentives/stipends to teachers participating in PL	Aug 2022–Jul 2026	MSB, CCRB, LEAs, CSTA-NM, CSA	
Identifying appropriate grade-level PL	Jul 2023–Jul 2026	MSB, CCRB, LEAs, CSTA-NM, CSA	
Offer diverse PL that fits all teacher skills sets (novice to experienced)	Jul 2024– Jul 2026	MSB, CCRB, LEAs, CSTA-NM, CSA	
Introduce PL opportunities that integrate CS into K-8 math classes	Aug 2022–Jun 2026	MSB, CCRB, LEAs, CSTA-NM, CSA	
By 2026, provide ongoing training for administrators/educators/counselors to ensure courses are accessible to all students			
Foster working relationships between districts and schools to continue the growth of CS initiatives	Jul 2022–Jul 2026	MSB, CCRB, LEAs	
Support ongoing PL working groups that enhance the collaboration amongst CS teachers	Jul 2022– Jul 2026	MSB, CCRB, LEAs	