



ARKANSAS
DEPARTMENT
OF EDUCATION



ARKANSAS
K-12 COMPUTER SCIENCE

#ARKIDSCANCODE - SETTING THE STANDARD

A COMPREHENSIVE PLAN FOR THE REVISION, EVALUATION, AND CONTINUED IMPLEMENTATION OF THE #CSFORAR / #ARKIDSCANCODE ARKANSAS COMPUTER SCIENCE AND COMPUTING INITIATIVE

NOTE: This plan is intended to be a working document. As the Arkansas Department of Education (ADE) facilitates the standards development process and supports statewide implementation, modifications may be needed. Once posted, the most up-to-date plan can be accessed on the Computer Science page of www.arkansased.org.



#ARKidsCanCode - #CSforAR

2015 - 2017 Phase 1

Initial Implementation

- Legislation
 - High School Requirement
 - CS Taskforce
- Regulation
 - Flex Credit
 - Paths to Licensure
- State Point of Contact
- Standards / Courses
 - K-8 / High School
- Promotion
 - School Grants
 - Teacher Stipends
 - Promotional Videos / Ads

2017 - 2021 Phase 2

Program Expansion

- Teacher Capacity
 - Increase Certified/Endorsed
 - Develop K-8 Lead Program
 - Increase PD Opportunities
- Broaden Participation in HS CS
 - Continue Overall Growth to over 7,500
 - Increase Female Percentage
 - Promote Racial Diversity
- Post-Secondary / Career Alignment
- Partnership Development
- Initiative Evaluation
- Revise Standards/Courses Fall 2020

2021 - Forward Phase 3

Future Objectives

- Initiative Evaluation
 - Continued Diverse Growth
 - Increased Teacher Capacity
 - School Program Growth
- New Standards/Courses Implementation Fall 2021
- Continued Post-Secondary Alignment
- Continued Initiative Evaluation and Revision
- Continued Partnership Development

Vision - All Arkansas students actively engaging in a superior and appropriate computer science education.

Mission - To facilitate Arkansas's transition to becoming and remaining a national leader in computer science education and technology careers.

Beliefs for a Student-Focused Computer Science Education in Arkansas

- *Arkansas believes that every K-12 student in Arkansas deserves a premier computer science education that is suitable for his or her needs and can support his or her college and/or career aspirations.*
- *Arkansas believes that Arkansas will become and remain a national leader in computer technology careers through the implementation of a vertically articulated and comprehensive K-12 computer science education designed to support appropriate technological growth in all Arkansas students.*
- *Arkansas believes that, due to the nature of technology, computer science education development in Arkansas must be adaptable, dynamic, and ongoing and based on research by content area experts.*
- *Arkansas believes that professional development opportunities must be provided that meet the grade-band specific technological needs of educators in a modern society.*
- *Arkansas believes that Arkansas educators must provide their students with an education that will facilitate the advance of useful technological skills and promote their role as digital natives.*
- *Arkansas believes that appropriate and continued collaboration with stakeholders will lead to a sustainable computer science educational system that is beneficial to students and Arkansas.*
- *Arkansas believes that utilizing the wisdom of Arkansas educators who represent all grade levels, content areas, and regions of the state, in the development and periodic revisions of the K-12 Computer Science Standards is fundamental to ongoing successful implementation.*
- *Arkansas believes that Arkansas's current, potential, and future industries that use computer technology should play a vital role in the development, implementation, and evolution of computer science education in Arkansas.*
- *Arkansas believes that the Arkansas Department of Higher Education and Arkansas's institutions of postsecondary education are instrumental in establishing and adapting the goals of secondary computer science education in Arkansas.*
- *Arkansas believes that the Arkansas Department of Career Education has created a catalog of beneficial computer science courses that should evolve to become a component of this initiative and through which students can access additional areas of specialization.*
- *Arkansas believes that parents and other community members should be knowledgeable of the requirements of the Arkansas K-12 Computer Science Standards and be afforded the opportunity to provide feedback prior to adoption and revision of the standards.*

Goals and Associated Tasks for Computer Science Education in Arkansas

The Arkansas Department of Education (ADE) Division of Elementary and Secondary Education (DESE) Office of Computer Science is committed to the agency's vision in transforming Arkansas to lead the nation in student-focused education. This strategic plan is developed and will be implemented in supporting the five agency level goals found at <http://dese.ade.arkansas.gov/about-ade/vision-for-excellence-in-education>

The ADE DESE Office of Computer Science's established goals and associated tasks for computer science education implementation in Arkansas are divided into five categories:

- 1. Standards, Curriculum, and Pathways** - *Successful implementation of computer science education in Arkansas requires the development and periodic revision of a comprehensive and vertically articulated set of K-12 computer science curriculum standards and courses, the local creation of well-developed curriculum that supports student learning, proper alignment of the K-12 expectations and opportunities to industry needs, and appropriate K-20 pathway development for students seeking formal computer science education beyond high-school.*
- 2. Educator Development and Training** - *Successful implementation of computer science education in Arkansas requires the ADE and its partner organizations to anticipate and address the needs of the Arkansas educational system with regards to knowledgeable and informed computer science teachers. ADE in collaboration with the Arkansas Educational Cooperatives and other partners must support quality computer science educator development and training opportunities for all Arkansas Educators and Administrators.*
- 3. Licensure** - *Successful implementation of computer science education in Arkansas requires the ADE and its partner organizations to anticipate and address the needs of the Arkansas educational system with regards to licensed and endorsed computer science teachers. ADE will continue and further research and implement, when appropriate, flexible licensure pathways and practices, based on legislation and regulation.*
- 4. Outreach and Promotion** - *Successful implementation of computer science education in Arkansas requires the active use of a broad range of mediums, digital tools, and human networks to properly communicate about the Arkansas Computer Science Education Initiative and respond to the needs and concerns of Arkansas students, educators, community members, and industry leaders.*
- 5. Program Growth and Student Success** - *Successful implementation of computer science education in Arkansas requires encouraging broad school implementation, supporting lighthouse schools to expand their programs, increasing statewide teacher capacity, growing student interest, and increasing stakeholder interest and support through the use of innovative programs and outreach initiatives.*

These categories will each be addressed in two different groupings based on the status/time frame of its implementation: 1. Current/Planned Future and 2. Past Planned/Completed Work.

Standards, Curriculum, and Student Success

Successful implementation of computer science education in Arkansas requires the development and periodic revision of a comprehensive and vertically articulated set of K-12 computer science curriculum standards and courses, the local creation of well-developed curriculum that supports student learning, proper alignment of the K-12 expectations and opportunities to industry needs, and appropriate K-20 pathway development for students seeking formal computer science education beyond high-school.

Task Title	Description or Link to Information	Start - Completion Date
Arkansas Cyber Range Project	On October 5, 2017, Governor Asa Hutchinson announced that a \$500,000 grant from the Arkansas Department of Higher Education will be provided to the University of Central Arkansas (UCA) to help pay for a fully functional dedicated cyber range for educational training. The cyber range was constructed on the UCA campus by METOVA, a national leader in software and cyber range development, and UCA began work on developing post-secondary content and ensuring the range is remotely accessible. In November 2018, the Arkansas Department of Education (ADE) entered into agreements with METOVA and NICERC to develop curriculum modules to be used to teach important cyber security concepts. These modules, open to anyone, are being piloted over the 2019/2020 school year. It is the intent that the curriculum modules present students with a series of real-world challenges that will illustrate the practical, operational, and ethical issues of working in this kind of space. http://www.arkansased.gov/divisions/special-projects/arkansas-computer-science-initiative/arkansas-cyber-range-project	Module Creation November 2018 - June 1, 2019 Pilot Implementation November 2018 - June 1, 2020
Computer Science Graduation Pathways and Program of Study Development	The Office of Computer Science will continue to research, explore, and develop as necessary courses, course pathways, and other opportunities that will prepare Arkansas students for higher level college work and careers in computer science and computing technology. This will include but is not limited to ensuring clear and productive transitions from high-school into post-secondary (technical, 2-year, and 4-year) educational systems. http://dese.ade.arkansas.gov/divisions/special-projects/arkansas-computer-science-initiative/computer-science-standards-and-courses	Ongoing

Current/Planned Future

K-8 Standards Committee Composition and Selection Criteria	The ADE State Director of Computer Science Education shall form a standards revision committee and updated process for Grades K-8. This committee shall have an appropriate representation of: • Statewide Computer Science Specialists • teachers, curriculum specialists, and administrators ◦ from all 5 regions of the state ◦ from large, medium, and small districts ◦ from the tri-district schools ◦ spanning Grades K-8 ◦ have experience working with all students, including students with disabilities, English language, and gifted learners. ◦ corresponding with the current racial, ethnic, and gender demographics of Arkansas (http://quickfacts.census.gov/) • post secondary educators • technology industry experts • previous framework development/revision members • Other key stakeholders as identified by the ADE Office of Computer Science	October 2020 - November 2020
K-8 Standards Revision	The ADE State Director of Computer Science Education and Lead SCSS will convene a computer science standards revision committee for Grades K-8 with the purpose of reviewing, and, if necessary, revising the Arkansas K-8 Computer Science Education Standards.	November 2020 - February 2021
9-12 Standards Committee Composition and Selection Criteria	The ADE State Director of Computer Science Education shall form a standards revision committee and updated process for Grades 9-12. This committee shall have an appropriate representation of: • Statewide Computer Science Specialists • teachers, curriculum specialists, and administrators	January 2021

Current/Planned Future

	- o from all 5 regions of the state - o from large, medium, and small districts - o from the tri-district schools - o spanning Grades 9-12 - o have experience working with all students including students with disabilities, English language, and gifted learners. - o corresponding with the current racial, ethnic, and gender demographics of Arkansas (http://quickfacts.census.gov/) • post secondary educators • technology industry experts • previous framework development/revision members • Other key stakeholders as identified by the ADE Office of Computer Science	
CS Licensure Review	The ADE State Director of Computer Science Education and Lead SCSS will conduct a review of current CS licensure processes with ADE Licensure personnel in the interest of making recommendations to the SBE with the standards submission.	January 2021 - February 2021
9-12 Standards Revision	The ADE State Director of Computer Science Education and Lead SCSS will convene a computer science standards revision committee for Grades 9-12 with the purpose of reviewing, and if necessary, revising the Arkansas 9-12 Computer Science Education Standards and courses.	January 2021 - March 2021
SBE Action Agenda Item	The ADE State Director of Computer Science Education will prepare an action agenda item that petitions the SBE for adoption of Arkansas K-12 Computer Science Standards.	April 2021

Current/Planned Future

K-12 Implementation	The revised Arkansas K-12 Computer Science Standards will be implemented.	2021-2022 School Year
2025 Standards Revision	The ADE State Director of Computer Science Education will commence the process for standards revision to take place during the 2024 - 2025 school year and implemented during the 2025-2026 school year. Future revisions should be scheduled to be developed and implemented every four years thereafter.	Winter 2024 - Summer 2025

Educator Development and Training

Successful implementation of computer science education in Arkansas requires the ADE and its partner organizations to anticipate and address the needs of the Arkansas educational system with regards to knowledgeable and informed computer science teachers. ADE in collaboration with the Arkansas Educational Cooperatives and other partners must support quality computer science educator development and training opportunities for all Arkansas Educators and Administrators.

Task Title	Description or Link to Information	Start - Completion Date
Arkansas's K-12 Computer Science Implementation Professional Development - Face-to-Face Delivery	The Statewide Computer Science Specialists will continue to identify, recommend, develop, schedule, fund, and deliver in person computer science educator development and training opportunities. Main Statewide Trainings (Provided in every ESC over the Summer by the State Team) • High School Computer Science and Certification Preparation • Launch Into Coding • Coding Block Resources • #ARKidsCanCode: Discover Computer Science (5 - 8) • #ARKidsCanCode: Exploring Computer Science (K-4) Additional and Advanced Trainings (Provided in various locations by the State Team) • Advanced Information Security- High School CS Professional Development • Advanced Network/Hardware- High School CS Professional Development • Advanced Java - High School CS Professional Development • Advanced Python Programming - High School CS Professional Development • Digital Design: Innovative Coding through Embroidery • TechStart Virtual Reality Equipment "Re"-Training • The Basics of Unity and VR • Raspberry Pi with Python • Micro:Bit in the Library • Coding and Creating with Circuit Playground External Partner Trainings (Provided in various locations and funded through the ADE Office of Computer Science) • Harvard AP CSP Training • ASMSA CS+ (CS 1&2, CS 3&4, CS+E)	Ongoing

Current/Planned Future

	- ASMSA Praxis Prep (3-day) - ASMSA Coding Block PD - Utilizing the Cyber Security for Arkansas curriculum with the Metova Cyber Range A list of scheduled offerings with registration information is available at: http://bit.ly/2ppMruX	
Arkansas's K-12 Computer Science Implementation Professional Development - Online/Digital Delivery	The Statewide Computer Science Specialists will continue to identify, recommend, develop, schedule, fund, and deliver online computer science educator development and training opportunities. ArkansasIDEAS (https://ideaslms.aetn.org/) Courses (Developed and recorded by the State Team) - The Status of Computer Science in Arkansas - Computer Science Initiative - Overview (Administrator Training) - Coding Block: Exploring the Basics - Coding Block: Fundamental Skills - Coding Block: Making Decisions - Micro:Bit in the Library ArkansasIDEAS (https://ideaslms.aetn.org/) LinkedIn Learning (formerly Lynda.com) Learning Pathways Identification and Updates - Current: - Computer Science Praxis Prep - Computer Science Mobile Applications 1 - Computer Science Mobile Applications 2 - In development: - Computer Science CyberSecurity/Information Security - Introduction/Basics - Computer Science CyberSecurity/Information Security - Intermediate/Advanced	Ongoing
Arkansas Cyber Range ArkansasIDEAS Training Development	This series of trainings produced by our partners at AETN and ArkansasIDEAS will provide Arkansas educators with the necessary information needed to utilize the Arkansas Cyber Range effectively when teaching advanced cyber security concepts and will cover the eight curriculum modules developed through a partnership among the Arkansas Department of	June 2019 - June 2020

Current/Planned Future

	Education, the University of Central Arkansas in Conway, AR, Metova Federal of Conway, Arkansas, and the National Integrated Cyber Education Research Center of Shreveport, Louisiana. The trainings are scheduled to be released by ArkansasIDEAS periodically throughout the 2019/2020 School Year.	
Arkansas Department of Education Summer Summit	The ADE Office of Computer Science, with the support of the Statewide Computer Science Specialists and selected Computer Science Educators, will work with the ADE Summit planning committee to find, schedule, and deliver innovative and engaging community building, educator development, and content training opportunities at the ADE Summer Summit on a yearly basis.	Ongoing
Coding Arkansas Future Teacher Training and Hybrid Instruction Program	ADE will continue to fund through grants (as are available and appropriated), support programmatically, and provide guidance to ensure alignment with the state's vision for computer science the ASMSA Coding Arkansas' Future Program. The ADE Office of Computer Science Grant provides programmatic funding in addition to one FTE that will primarily support the Coding Arkansas' Future hybrid instruction program during the school year and the #ARKidsCanCode PD during the summer. The ADE Digital Learning Grant Provides programmatic funding in addition to two FTEs that run and support the Coding Arkansas' Future hybrid instruction program year round. Coding Arkansas' Future 2018/19 School Year Information: https://docs.google.com/document/d/1qQZJGt0GNY-0wFp8qVvsiUXGEhZ8ZIAUiUCyOszzTEc/edit#bookmark=id.2asvykgmrqbm	Ongoing
CSTA+ Membership	On September 4, 2018, Gov. Asa Hutchinson announced that teachers holding the 528 Computer Science Endorsement on their Arkansas Educator's License would be eligible to receive a paid CSTA+ membership to the international Computer Science Teachers Association (CSTA).	Ongoing

Current/Planned Future

	Arkansas educators must hold the 528 Computer Science endorsement on their Arkansas Educator’s License to be eligible. Educators meeting this requirement may begin the process to join or be reimbursed by filling out the Google form found at: http://bit.ly/CSforARCSTA Once the form is completed, all information will be shared with the ADE and CSTA. After licensure verification by ADE, the CSTA membership team will contact you with membership information. http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=3764	
Conference Sponsorships for the annual Computer Science Teachers Association Conference	The Arkansas Department of Education Office of Computer Science will provide financial assistance, as available, for Arkansas educators to attend the Computer Science Teachers Association (CSTA) Annual Conference. The purpose is to provide an opportunity for teachers to expand their computer science knowledge and network with other educators from around the world.	Ongoing
Statewide Computer Science Specialists	The ADE Office of Computer Science will maintain, as funding is available, an appropriate network of Statewide Computer Science Specialist (SCSS) positions housed across the state. The SCSS has a primary objective to create and deliver high-quality, state-approved, computer science professional development, and support schools, teachers, and students across Arkansas in a way that promotes the Arkansas Computer Science Initiative.	Ongoing
Statewide Lead Computer Science Specialist	The ADE Office of Computer Science will maintain, as funding is available, a Lead SCSS that will be hosted at ADE in LR with a primary objective to assist the Director of Computer Science to ensure the continued success and growth of the Arkansas Computer Science Initiative and its vision/mission by assisting in the coordination, planning, evaluation, and delivery of high-quality, state-approved, CS PD.	Ongoing

Licensure

Successful implementation of computer science education in Arkansas requires that the ADE continue and further research and implement, when appropriate, flexible licensure pathways and practices, based on legislation and regulation.

<u>Task Title</u>	<u>Description or Link to Information</u>	<u>Start - Completion Date</u>
Identifying and Addressing Licensure Roadblocks	The ADE State Director of Computer Science Education will continue to collaborate with ADE Licensure Specialists and ADE Legal Services to identify and address roadblocks to building statewide computer science teacher capacity. Roadblocks that are not based in legislation or agency rules will be evaluated and the State Director of Computer Science Education will make recommendations, when warranted, to the Director of Licensure for amending prohibitive practices. Roadblocks that are based in regulation and/or legislation will be evaluated and the State Director of Computer Science Education will make recommendations, when warranted, to the ADE Leadership Team or other appropriate entity.	Ongoing
Arkansas Professional Pathway to Educator Licensure (APPEL) Computer Science Program	The Arkansas Department of Education will pay full tuition for up to two years for qualified Computer Science candidates who enroll in the APPEL program. http://www.arkansased.gov/public/userfiles/HR_and_Educator_Effectiveness/APPEL/APPEL_Computer_Science_FAQ_s_2017-2018_Updated_December_2016_.pdf	Ongoing
PRAXIS Reimbursement for CS	A test taker who passes the computer science educator licensure assessment for an Arkansas educator license in Computer Science may be eligible for a one-time assessment fee reimbursement by the Arkansas Department of Education (ADE). Reimbursements are processed on an as-received basis and are subject to funding availability. The ADE reserves the right to deny reimbursement due to lack of funding secured for this purpose. http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=1920	Ongoing

Current/Planned Future

Licensure Renewal Reimbursement	On September 4, 2018, Gov. Asa Hutchinson announced that teachers holding the 528 Computer Science Endorsement on their Arkansas Educator's License would have their first-time standard license application and renewal application fees reimbursed. http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=3754	Ongoing
High School Computer Science Stipend Program	Under this program Arkansas educators may be eligible to receive up to \$2,000.00 in stipends for gaining a 528 Computer Science Endorsement on their Arkansas Educator's License and teaching a computer science course approved* by the ADE Office of Computer Science. http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=3818	Ongoing
K-8 Computer Science Lead Teacher Stipend and Training Program	Under the K-8 Computer Science Lead Teacher Stipend and Training Program Arkansas educators may be eligible to receive up to \$2,000.00 in stipends for attending a 5-day professional development session provided at no cost by the Arkansas Department of Education Office of Computer Science; gaining a 528 Computer Science Endorsement on their Arkansas Educator's License; and providing a requisite number of both one-on-one support and school wide professional development hours. http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=3978	Ongoing
Advanced Computer Science Professional Development Stipend Program	The ADE Office of Computer Science has allocated \$25,000 of the Computer Science Initiative budget to provide \$100 per day stipends for computer science teachers to attend approved advanced training sessions. To receive the stipends, teachers must either have a 528 Computer Science Endorsement, 5016 Computer Science Approval Code, or a 5014 Computer Science Approval Code on their Arkansas educator's license. http://www.arkansased.gov/public/userfiles/news/2017/Coding_Competition_Date_Set_Stipends_for_Teachers_Announced.pdf	Ongoing

Outreach and Promotion

Successful implementation of computer science education in Arkansas requires the active use of a broad range of mediums, digital tools, and human networks to properly communicate about the Arkansas Computer Science Education Initiative and respond to the needs and concerns of Arkansas students, educators, community members, and industry leaders.

<u>Task Title</u>	<u>Description or Link to Information</u>	<u>Start - Completion Date</u>
Update and Maintain the Computer Science pages of the ADE Website	The ADE State Director of Computer Science Education, in collaboration with the ADE Communications Unit, will regularly update the computer science pages of the ADE website.	Ongoing
Arkansas Computer Science Educator of the Year Award	The Arkansas Department of Education Office of Computer Science will facilitate, as funding is available, an annual Arkansas Computer Science Educator of the Year Award program. Program Schedule (subject to change), if continuing: • Announced in December/January, • Applications will be accepted from February 1 - February 28. Only fully completed applications submitted by 11:00p.m. CST on February 28 will be eligible for consideration, • All applications will undergo a finalist selection process between March 1 - March 20, • The Arkansas Computer Science Initiative Unit will select five (5) finalists based on a rubric scoring system. The finalists will be announced on or before March 31, and will be eligible to receive a \$2,500 award, and • Between April 1, and April 20, a panel of reviewers, composed of members of the Computer Science Initiative Unit and external computer science and education leaders, will select the winner, based on a rubric scoring system. 2018-19 Award Announcement: http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=3898	Ongoing

Current/Planned Future

	2018-19 Winner's Announcement: https://governor.arkansas.gov/news-media/press-releases/governor-hutchinson-ade-announce-first-recipient-of-arkansas-computer-science-educator-of-the-year-award	
Round Table Discussions with Directors and TCCs from Educational Cooperatives	The ADE State Director of Computer Science Education will hold regular, interactive, remote meetings with educational cooperative Directors and Teacher Center Coordinators (TCCs) related to the implementation of computer science education in Arkansas.	Ongoing
Online Interactive Communication System	The ADE State Director of Computer Science Education will maintain an active online communication system (Listserv) that establishes two-way communication between industry experts and educators to develop partnerships, internships, and to provide a feedback loop.	Ongoing
Social Media Presence	The ADE State Director of Computer Science Education will regularly provide information regarding developments in computer science education in Arkansas to be shared via Initiative and ADE's Social Media Platforms.	Ongoing
Conference Updates	The ADE State Director of Computer Science Education will regularly present updates on Computer Science Education at various state level and national level conferences.	Ongoing
Update of Computer Science Fact Sheet	The ADE State Director of Computer Science Education will regularly make necessary updates to the Computer Science FAQ Sheet. https://docs.google.com/document/d/1j9WF2g_gLkwwHjQletJ3nRHRQhCqOUJ-YkPuRJVNGvI/edit?usp=sharing	Ongoing

Current/Planned Future

Update of Computer Science Strategic Plan	The ADE State Director of Computer Science Education will update the ADE Computer Science Strategic Plan based on the recommendations of the Computer Science Task Force and the Governor. Periodic updates will continue on an as needed basis.	Ongoing
Research and Apply for Grant Opportunities	The ADE State Director of Computer Science Education will apply for appropriate grants/partnerships and manage awarded grants.	Ongoing
National Outreach and Recognition	The ADE State Director of Computer Science Education will work to make the #ARKidsCanCode a national model for other states' CS education initiatives.	Ongoing
PAEMST Awards	The ADE State Director of Computer Science Education will collaborate with the Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST) State Coordinator(s) to encourage computer science teachers to apply for this national award and will participate in the applicant review process annually.	Ongoing
Videos and Public Service Announcements (PSAs)	The ADE State Director of Computer Science Education will collaborate with the ADE Communications Unit and the Governor's office to create and distribute videos/PSAs encouraging parents, students, communities, and industry to engage in computer science education options.	Ongoing
Governor's All-Region/All-State Coding Competitions	The Arkansas Department of Education Office of Computer Science will schedule and facilitate the All-Region coding competition to be held in early spring. The All-State Coding Competition state event, also coordinated by the Office of Computer Science, will be scheduled in early May. http://dese.ade.arkansas.gov/divisions/special-projects/arkansas-computer-science-initiative/contest-and-grant-opportunities/governors-all-region-and-all-state-coding-competition	Ongoing
Innovation in Computer Science School Grant Program	The Arkansas Department of Education Office of Computer Science will facilitate, as funding is available, an annual Computer Science Innovation Grant opportunity for Arkansas public K-12 schools. This is a multi-stage competitive grant process. Year One Commissioner's Memo: http://bit.ly/2MZvy5r	Ongoing

Current/Planned Future

#ARKidsCanCode Enrollment Contest	The Arkansas Department of Education Office of Computer Science will facilitate, as funding is available, an annual #ARKidsCanCode Enrollment Contest. Schools will be recognized for various categories and methods of increasing Computer Science enrollment. The contest will be announced within the first two weeks of school, and, beginning with the 2019-2020 announcement, the winners from the previous year's contest will be announced at the same time. 2018-19 Contest Announcement: http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=3772	Ongoing
Family Coding Night Support Involvement	The Arkansas Department of Education Office of Computer Science will facilitate, support, and attend, as appropriate, community family coding night and other computer science outreach activities and programs.	Ongoing
Computing Outreach, Promotion, and Education	The Arkansas Department of Education Office of Computer Science will seek, learn about, promote, and facilitate, as appropriate, other computing activities, programs, and education. Computer Science is a specialized area within the field of Computing; therefore, many computing related opportunities that are beneficial for our state economically and students educationally are not specifically computer science. These can include, but are not limited to IT or other technology industry certification programs and learning, technology based platforms, physical computing and robotics, cybersecurity, information systems, and others as appropriate. The ADE Office of Computer Science will support these other areas of computing as they are necessary for a well informed and effective computer science initiative.	Ongoing

Program Growth

Successful implementation of computer science education in Arkansas requires encouraging broad school implementation, supporting lighthouse schools to expand their programs, increasing statewide teacher capacity, and growing student interest through the use of innovative programs and outreach initiatives.

<u>Task Title</u>	<u>Description or Link to Information</u>	<u>Start - Completion Date</u>
Documenting Teacher Capacity	The Office of Computer Science will ensure the number of Arkansas Educators continues to grow in an appropriate way to support the state's needs. Each year since its creation in 2015, additional Arkansas educators are adding the 528 4–12 Computer Science Endorsement to their teaching license: • 2015 - 6 educators • 2016 - 17 additional • 2017 - 69 additional • 2018 - 92 additional • 2019 (as of July 31) - 59 additional In addition, over 180 Arkansas educators have one of varying ADE Computer Science Licensure Approval Codes: (https://docs.google.com/document/d/1j9WF2g_gLkwwHjQletJ3nRHRQhCqOUJ-YkPuRJVNGvI/edit#bookmark=id.uyizwgied01) http://dese.ade.arkansas.gov/divisions/special-projects/arkansas-computer-science-initiative/computer-science-communications	Ongoing
Documenting Student Enrollment	In the 2018–2019 school year, four years into its initiative, Arkansas reached its 5-year goal of having over 7,500 high school students enroll in a high-quality computer science course, with a statewide enrollment of 8,044. Since the 2014–2015 school year, this is an overall increase of 6,941 students (+629%) and an increase in female student enrollment of 2,261 (+1,014%). • 2018-19 Summary https://drive.google.com/open?id=151F8T0Czau0-eHvIKGwReVsT5mP4sN21 • 2017-18 Summary https://drive.google.com/open?id=1BYes2vGOuO8yZ4I3WSvCVVZFVYyIA1FO • 2016-17 Summary https://drive.google.com/open?id=0Bx3j8vGA_rRMN0pWdGR4eGpxWFk	Ongoing

	http://dese.ade.arkansas.gov/divisions/special-projects/arkansas-computer-science-initiative/computer-science-communications	
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Standards/Curriculum

Successful implementation of computer science education in Arkansas requires the development and periodic revision of a comprehensive and vertically articulated set of K-12 computer science curriculum frameworks and the local creation of well-developed curriculum that supports student learning.

<u>Task Title</u>	<u>Description or Link to Information</u>	<u>Start - Completion Date</u>
Development of Mathematics and Computer Science Standards	The Computer Science and Mathematics Curriculum Framework was designed to be an initial step toward filling a void in Arkansas public school course offerings. In late October, a committee of educators from across the state met for two days and drafted the framework document. This committee consisted of five (5) secondary computer science/business technology teachers, four (4) secondary mathematics teachers, one (1) secondary mathematics administrator, and one (1) post-secondary computer science professor. The committee was facilitated by the Arkansas Department of Education Curriculum and Instruction Unit, which was represented by Secondary Mathematics Specialist, Anthony Owen. The Arkansas Department of Career Education (ACE) was represented by ACE STEM Program Coordinator, Timothy Johnston. The design of the curriculum framework was guided by both the Common Core State Standards for Mathematics (CCSSM) and the Computer Science Teachers Association (CSTA) K-12 Computer Science Standards. The committee designed the strands and the content standards based on the CSTA standards. The Student Learning Expectations, which were based on computer programming/computer science concepts, are aligned with fifty (50) CCSSM standards. Twenty-one (21) of those fifty (50) aligned CCSSM standards are CCSSM Plus Standards, which are standards that are above the scope of Algebra II.	October - November 2014
Adoption of Mathematics and Computer Science Standards	The Mathematics and Computer Science Curriculum Framework was adopted by the State Board of Education	December 2014
Development of Essentials of Computer Programming Standards	The Essentials of Computer Programming Curriculum Framework was designed to provide any 9 th - 12 th grade student with a coding intensive course, regardless of prior computer science experience. In late January 2015, a committee of 15 educators and industry leaders from across the state met for three days and drafted the framework document. This committee consisted of five (5) secondary level computer science educators, seven (7) post-secondary computer science professors, one (1) Career and Technical Education district level administrator, two (1) industry representatives, and one (1) Arkansas Department of Career Education (ACE) STEM Program Coordinator. The design of the curriculum framework was guided by both the	January 2015

Past Planning/Completed Work
The following is included for posterity.

	Computer Science Teachers Association (CSTA) K-12 Computer Science Standards and existing Arkansas Department of Education and ACE computer science course frameworks.	
Adoption of Essentials of Computer Programming Standards	The Essentials of Computer Programming Curriculum Framework was adopted by the State Board of Education.	February 2015
Creation of Computer Science Fact Sheet	Anthony Owen, Curriculum and Instruction Unit, created and posted on the 2015-2016 Computer Science FAQ Sheet. http://www.arkansased.gov/public/userfiles/Learning_Services/Curriculum%20and%20Instruction/Resource%20Mat/Computer%20Science/Computer_Science_Fact_Sheet_Final.pdf	April 2015
Curriculum Subcommittee of the Arkansas Computer Science Task Force	The Curriculum Subcommittee of the Arkansas Computer Science Task Force is composed of Dr. Tim Atkinson, Dr. Charisse Childers, Carl Frank (Chair), David Hopkins, John James, Andy Mayes, and Johnny Key. This Subcommittee is tasked with making recommendations regarding computer science curriculum alignment and development in Arkansas.	May - August 2015
Computer Science Task Force	On July 21, 2015 the CSTF voted on the following recommendations: • Recommend to the Commissioner of Education that ADE begin the development process of a comprehensive K-12 Computer Science Framework • Recommend that the ADE use the CSTA K-12 Standards as a guiding document for the state's framework development.	July 2015
Computer Science Task Force Curriculum Subcommittee	The ADE State Director of Computer Science Education will serve as a committee member on the Curriculum Subcommittee.	Summer 2015
K-8 Framework Committee Composition and Selection Criteria	The ADE State Director of Computer Science Education shall form a framework development committee for Grades K-8. This committee shall have an appropriate representation of: • teachers, curriculum specialists, and administrators ◦ from all 5 regions of the state ◦ from large, medium, and small districts ◦ from the tri-district schools	September - December 2015

Past Planning/Completed Work
The following is included for posterity.

	- o spanning Grades K-8 - o have experience working with all students, including students with disabilities, English language, and gifted learners. - o corresponding with the current racial, ethnic, and gender demographics of Arkansas (http://quickfacts.census.gov/) • post secondary educators • technology industry experts • previous framework development/revision members • technology specialists from other state agencies • members of the Arkansas Computer Science Task Force Curriculum subcommittee	
K-8 Framework Development	The ADE State Director of Computer Science Education will collaborate with the ADE Curriculum and Instruction Unit to convene a computer science framework development committee for Grades K-8 with the purpose of designing a comprehensive and vertically articulated K-8 Computer Science Education Framework. This development process will include a review and integration of the recommendations of the Computer Science Task Force, a review of the results of the stakeholder input survey, study reports from national organizations, and a review of computer science education standards from other states and national organizations.	October - December 2015
SBE Action Agenda Item	The ADE State Director of Computer Science Education will prepare an action agenda item that petitions the SBE for adoption of Arkansas K-12 Computer Science Standards for Grades K-8. Adopted: http://www.arkansased.gov/divisions/learning-services/curriculum-and-instruction/curriculum-framework-documents/computer-science	January 2016
9-12 Framework Committee Composition and Selection Criteria	The ADE State Director of Computer Science Education shall form a framework development committee for Grades 9-12. This committee shall have an appropriate representation of: • teachers, curriculum specialists, and administrators - o from all 5 regions of the state - o from large, medium, and small districts - o from the tri-district schools - o spanning Grades 9-12 - o have experience working with all students, including students with disabilities, English language, and gifted learners.	February - April 2016

Past Planning/Completed Work
The following is included for posterity.

	- o corresponding with the current racial, ethnic, and gender demographics of Arkansas (http://quickfacts.census.gov/) • post secondary educators • technology industry experts • previous framework development/revision members • technology specialists from other state agencies members of the Arkansas Computer Science Task Force Curriculum subcommittee	
9-12 Framework Development	The ADE State Director of Computer Science Education will collaborate with the ADE Curriculum and Instruction Unit to convene the two Computer Science framework development committees for Grades 9-12 with the purpose of designing high school courses that are part of a comprehensive and vertically articulated K-12 Computer Science Education Framework. Standards, designed as part of this work, shall be "...clear, specific, and challenging academic content standards which define what students shall know and be able to do in each content area." (ACA 6-15-404). This development process will include a review and integration of the recommendations of the Computer Science Task Force, a review of the 2016 Computer Science Framework Documents for Grades K-8, a review of the results of the stakeholder input survey, a review of study reports from national organizations, and a review of computer science education standards from other states and national organizations. The committee will also review and revise Arkansas Department of Career Education Computer Science Frameworks as appendices to the developed ADE Computer Science Frameworks.	April - June 2016
SBE Action Agenda Item	The ADE State Director of Computer Science Education will prepare an action agenda item that petitions the SBE for adoption of Arkansas K-12 Computer Science Standards for Grades 9-12. Adopted: http://www.arkansased.gov/divisions/learning-services/curriculum-and-instruction/curriculum-framework-documents/computer-science	August 2016
Commissioner's Memo and Framework Webinar	The ADE State Director of Computer Science Education in collaboration with the Curriculum and Instruction Unit will develop a commissioner's memo that announces the adoption of the K-12 Computer Science Standards and provide administrative guidance on implementing the K-12 Computer Science Standards via webinar. http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=2110	October - December 2016

Past Planning/Completed Work
The following is included for posterity.

Create a Statewide Computer Science Specialist Support System	ADE granted FY17 funding for six statewide computer science specialists Contact information for the specialists: http://www.arkansased.gov/divisions/learning-services/curriculum-and-instruction/resource-materials-for-lesson-plans/computer-science/statewide-computer-science-specialists An additional granted position has been approved for ASMSA to expand their hybrid instructional model.	
Release Official Announcement Regarding the 2017-18 School Year Implementation	Commissioner's Memo COM-17-039 - ADE / ARCareerED Joint Statement on the 2017-2018 Computer Science Initiative Implementation found at http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=2157 officially announced computer science (CS) standards changes, course changes, course code changes, and licensure changes for the 2017-18 school year.	February 2017
K-12 Implementation	The Arkansas K-12 Computer Science Standards were implemented.	2017-2018 School Year
Statewide Computer Science Specialist	The Arkansas Department of Education granted funding for two additional Statewide Computer Science Specialist (SCSS) positions, bringing the total to nine statewide CSS.	Spring 2018
Statewide Lead Computer Science Specialist	The ADE Office of Computer Science funded a Lead SCSS that will be hosted at ADE in LR with a primary objective to assist the Director of Computer Science to ensure the continued success and growth of the Arkansas Computer Science Initiative and its vision/mission by assisting in the coordination, planning, evaluation, and delivery of high-quality, state-approved, CS PD.	July 2019

Licensure and Professional Development

Successful implementation of computer science education in Arkansas requires the ADE, Arkansas Educational Cooperatives, and Arkansas STEM Centers to anticipate and address the needs of the Arkansas educational system with regards to licensed computer science teachers. ADE must work to have flexible licensure pathways and practices, based on legislation and regulation. ADE in collaboration with the Arkansas Educational Cooperatives and Arkansas STEM Centers must support quality computer science professional development opportunities for all Arkansas Educators and Administrators.

Task Title	Description	Start - Completion Date
Drafting of Computer Science Educator Competencies	The Educator Licensure Unit of the Arkansas Department of Education facilitated a meeting on Tuesday, January 6, 2015, to construct the competencies for Computer Science Programs to be used by institutions of higher education in the state. Members of the committee worked on drafts over the following weeks and the Educator Licensure Unit finalized and posted the competencies in February.	January - February 2015
Development and delivery of two ADE provided six-hour PD sessions on the two SBE approved computer science courses	Anthony Owen of the ADE Curriculum and Instruction Unit is leading Carl Frank of ASMSA, Marion Harris of Lincoln School District, Matt Schoultz of Henderson State University, Daniel Moix of Bryant School District, Bill Nielsen of ADE, Erika Sams of AETN in the development of two six-hour professional development sessions on supporting teacher implementation of the Mathematics and Computer Science and Essentials of Computer Programming Curriculum Frameworks. In June and July of 2015, Anthony Owen, Carl Frank, Marion Harris, and Matt Schoultz will be presenters of the two-day sessions in Educational Cooperatives and STEM Centers across the state. ADE sought feedback from participants to inform the development and delivery of future computer science PD.	February - August 2015
Licensure Alignment for Adopted Courses	Anthony Owen and Stacy Smith, ADE Curriculum and Instruction Unit, met with representatives from the ADE Licensure Unit to make licensure recommendations for the Mathematics and Computer Science, Essentials of Computer Programming, AP Computer Science, and IB Computer Science courses.	March 2015
Cut Score Development Team	Representatives of Arkansas met with ETS representatives to establish a cut score for the Computer Science Praxis Exam (#528) that Arkansas will be using for the 2015-2016 and 2016-2017 school years.	April 2015
Professional Development and Training Subcommittee of	The Curriculum Subcommittee of the Arkansas Computer Science Task Force is composed of Dr. Tim Atkinson, Dr. Charisse Childers, Carl Frank, Johnny Key, and Andy Mayes (Chair). This Subcommittee is tasked with making recommendations regarding computer science professional development and training in Arkansas.	May - August 2015

Past Planning/Completed Work
The following is included for posterity.

the Arkansas Computer Science Task Force		
Code.org 2015-2016 Training	The ADE State Director of Computer Science Education will facilitate the ten-educator team that is representing Arkansas in the 18-month Code.org training. This facilitation includes ensuring teacher participation in all training sessions/activities, working with team members and Code.org to secure program feedback, arranging travel and reimbursements, and supporting team members with implementation of the Code.org curriculum.	May - January 2017
Computer Science Task Force Professional Development and Training Subcommittee	The ADE State Director of Computer Science Education will serve as a committee member on the Professional Development and Training Subcommittee.	June - December 2016
Contract with External Provider	The ADE Professional Development Unit, in collaboration with the ADE State Director of Computer Science Education and the Curriculum and Instruction Unit, will explore contracting with an external provider to provide training to the educational cooperative and STEM Center specialists interested in providing future computer science training. The goal of this training would be to continue the enhancement of each specialist's understanding of computer science pedagogical techniques and content. http://www.arkansased.gov/divisions/learning-services/curriculum-and-instruction/resource-materials-for-lesson-plans/computer-science/2016-professional-development-grants	October - December 2015
Professional Development Creation	The ADE State Director of Computer Science Education will work with the ADE PD Unit, the Arkansas Educational Cooperatives, and the Arkansas STEM Centers to develop high-quality computer science PD to be delivered during the Summer of 2016. http://www.arkansased.gov/divisions/learning-services/curriculum-and-instruction/resource-materials-for-lesson-plans/computer-science/2016-professional-development-grants	October 2015 - June 2016
AP Summer Institutes for Computer Science Principles and	http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=2091	November 2016

Past Planning/Completed Work
The following is included for posterity.

Computer Science A Scheduled and Announced		
Implementation Guidance Videos	The Office of Computer Science will work with ArkansasIDEAS to create 2017-18 SY implementation guidance videos for educators. A video explanation of the High school implementation can be found at: http://ideas.aetn.org/teaching-resources/video The direct link to the K-8 session is: http://video1.aetn.org/ideasplayer.html?source=edu/TCC17965/TCC17965-FULL.mp4 The direct link to the High School session is: http://video1.aetn.org/ideasplayer.html?source=edu/TCC17977/TCC17977-FULL.mp4 The resources referenced in the video may be accessed at http://www.arkansased.gov/divisions/learning-services/curriculum-and-instruction/computer-science	Fall 2016
Implement a Computer Science Approval Code System	Teachers planning to teach an ADE / ARCareerEd course in 2017 who do not currently hold a 528 Computer Science endorsement, may apply for a 5016, 5017, 5018, and/or 5019 approval code by accessing the digital application at: https://www.surveymonkey.com/r/YMK9BT6 Detailed information regarding licensure requirements, how to obtain the 528 CS endorsement, and approval code requirements for CS can be found on the ADE / ARCareerED Computer Science Fact Sheet at: http://bit.ly/2loYF7I Announced via Commissioner's Memo http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=2159	March 2017

Past Planning/Completed Work
The following is included for posterity.

Arkansas's K-12 Computer Science Implementation Professional Development - Creation	The Arkansas Computer Science Specialists worked with the ADE Office of Computer Science, ESC TCC's, ESC Directors, and other partners to develop and prepare to deliver five different summer professional development sessions at all ESCs around the state. - The Arkansas Computer Science Specialists developed the following five professional development offerings that will be made available to all Arkansas teachers: - Embedding the K-5 Computer Science Standards Across Content Areas - Embedding the 5-8 Computer Science Standards Across Content Areas - Proper Instruction of the Coding Block for Grades 7 and 8 - High School Computer Science and Certification Preparation - Administrators Supporting Computer Science Education in Their Schools - Full descriptions of these offerings can be read at: http://bit.ly/2omlYhh	April 2017
Arkansas's K-12 Computer Science Implementation Professional Development - Delivery	The Computer Science Specialists are scheduling CS PD at all Educational Service Cooperatives across Arkansas. A list of scheduled offerings with registration information is available at: http://bit.ly/2ppMruX	September 2017
Arkansas K-8 Public School Library Professional Development	The Arkansas Computer Science Specialists are developing and scheduling a cross initiative program supporting both the Arkansas Computer Science (#ARKidsCanCode) and Arkansas Reading Initiative for Student Excellence (#RISEArkansas). Commissioner's Memo http://bit.ly/2PusQQ0	April 2018
Arkansas K-8 Lead Computer Science Teacher Training and Stipend Program	The Arkansas Computer Science Specialists are developing a five-day K-8 Computer Science Lead Teacher Stipend and Training Program professional development. Requirements for stipend eligibility can be read at http://bit.ly/2wj63pL	April 2018

Past Planning/Completed Work
The following is included for posterity.

Harvard CS50 AP Program Professional Development	The Arkansas Department of Education Office of Computer Science is working with the Harvard CS50 AP team to schedule the College Board Advanced Placement Computer Science Principles endorsed professional development in Arkansas. Commission's Memo: http://bit.ly/2w2k8Zo	April 2018
Advanced Computer Science Professional Development Stipend Program	The Arkansas Department of Education Office of Computer Science will allocate a portion of the Computer Science Initiative budget to provide a daily stipend for computer science teachers to attend approved advanced training sessions. Eligibility information can be read at http://bit.ly/2OZasFT The following professional development offerings will be made available: • Advanced Java Programming • Advanced Python Programming • Advanced Information Security	September 2018
Arkansas's K-12 Computer Science Professional Development - Creation	The Arkansas Computer Science Specialists worked with the ADE Office of Computer Science, ESC TCC's, ESC Directors, and other partners to develop and prepare to deliver summer professional development sessions at all ESCs around the state. The Arkansas Computer Science Specialists developed the following professional development offerings that will be made available to all Arkansas teachers: • High School Computer Science and Certification Preparation • Teaching the Coding Block for grades 7 & 8 from a Project Based Approach • K-8 Lead Teacher Training and Stipend Program • Computer Science in the K-8 Classroom Day 1 & Day 2 • Made available via AETN - Administrators Supporting Computer Science Education in Their Schools • Additional Speciality Training ○ The Basics of Unity and Virtual Reality ○ Raspberry Pi ○ Advanced Java Programming ○ Advanced Python Programming ○ Advanced Information Security Full descriptions of these offerings can be read at http://bit.ly/2o01Tz2	April 2018

Past Planning/Completed Work
The following is included for posterity.

Arkansas's K-12 Computer Science Professional Development - Delivery	The Computer Science Specialists scheduled CS PD at all Educational Service Cooperatives across Arkansas. A list of scheduled offerings with registration information is available at: http://bit.ly/2ppMruX	September 2018
Arkansas Computer Science Educators Conference	The Arkansas Department of Education Office of Computer Science, in partnership with the Arkansas Chapter of Computer Science Teachers Association (CSTA Arkansas) will host the 2018 Arkansas Computer Science Educators Conference at Henderson State University in July.	July 2018

Outreach and Promotion

Successful implementation of computer science education in Arkansas requires the active use of a broad range of mediums, digital tools, and human networks to properly communicate about the Arkansas Computer Science Education Initiative and respond to the needs and concerns of Arkansas students, educators, community members, and industry leaders.

Task Title	Description	Start - Completion Date
Computer Science Task Force	The ADE State Director of Computer Science Education will serve as the ADE Commissioner's designee on the Arkansas Computer Science Task Force.	Summer 2015 - Fall 2017
Computer Science Task Force Subcommittees	The ADE State Director of Computer Science Education will facilitate ADE support for all Arkansas Computer Science Task Force subcommittees.	Summer 2015 - Fall 2017
National Outreach and Recognition	The ADE State Director of Computer Science Education will work to make the #ARKidsCanCode a national model for other states' CS education initiatives. Out of state support: https://docs.google.com/spreadsheets/d/1aTTY1YOdxtCBqjBw3dktXa2YnZChV6liwhwRZXrzoUI/edit?usp=sharing BNY Mellon State of the States CS Leadership Report: http://edscoop.com/state-leaders-should-push-for-computer-science-access Education Advisor for Code.org: https://code.org/about/advisors Computer Science for Every Student in Arkansas: A Work in Progress https://medium.com/anybody-can-learn/csforar-9abda9abda40 Arkansas announces approval of computer science standards for every grade band http://blog.code.org/post/150175064113/arkansas-announces-approval-of-computer-science	Ongoing

Past Planning/Completed Work
The following is included for posterity.

Computer Science Student Video Contest	The ADE State Director of Computer Science Education will facilitate an annual (or bi-annual) Computer Science Student Video Contest based on award availability.	2015-2016 School Year
School Visits	The ADE State Director of Computer Science Education will facilitate visits to schools by dynamic speakers and presenters.	2016-2017 School Year
Videos and Public Service Announcements (PSAs) for students and parents	The ADE State Director of Computer Science Education will collaborate with the ADE Communications Unit and the Governor's office to create and distribute videos/PSAs encouraging parents and students to engage in computer science education options. These videos should communicate the need for highly skilled computer science workers in Arkansas, provide an update of the standards development/adoption/implementation process, and publicized updates regarding the growth of the computer science educational initiative in Arkansas. A concerted push should be made late spring and during the summer. CS Promotional Video Playlist: https://www.youtube.com/watch?v=kr2kelqGH-Q&list=PLESbYuOp1ecvmo2BpsCLxVcaHgj39nwgc Governor Hutchinson's Computer Science Videos: https://www.youtube.com/playlist?list=PLdUHZgvvGCTkbYhvLreHRe2liWiiZhjn9	Ongoing
Building State Capacity for Computer Science (CS) Leadership Workshop	A team of leaders from Arkansas recently returned from a two-day Building State Capacity for Computer Science (CS) Leadership workshop in Boston. This was an opportunity for representatives from different leadership areas to connect and gain a new perspective from others focused on CS education. The Arkansas Leadership Representation (in no particular order) was comprised of: • Bill Gossage - Representative that championed Act 187 of 2015; now Deputy Chief of Staff with the Office of Governor Asa Hutchinson • Dr. Megan Slocum – Associate Superintendent; Springdale School District • Dr. Bryan Hill – Assistant Dean at the University of Arkansas College of Engineering • Errin Stanger – Director of Programs, Memberships, and Events at the Arkansas Regional Innovation Hub • Anna Beth Gorman – Executive Director at the Women's Foundation of Arkansas • Vic Drier – Director of the ATU STEM Institute	February 2017

Past Planning/Completed Work

The following is included for posterity.

	● Carl Frank – Arkansas CSTA President and CS Instructor at ASMSA ● Tim Johnston – Program Coordinator at Arkansas Department of Career Education ● Trent Minner – Liaison at the Office of Governor Asa Hutchinson ● Anthony Owen – State Director of Computer Science Education at the Arkansas Department of Education During this meeting, the “State of the States Landscape Report: State-Level Policies Supporting Equitable K–12 Computer Science Education” report was released (this was mentioned by Commissioner Key during the April SBE Meeting). The full report can be downloaded from: http://www.edc.org/state-states-landscape-report-state-level-policies-supporting-equitable-k-12-computer-science This report was created through the combined efforts of the following CS education promoters/partners: BNY Mellon, MassCAN, Education Development Center (EDC), Code.org, Education Commission of the States, Expanding Computing Education Pathways (ECEP), and Sagefox Consulting Group. This work has led into discussions of new Arkansas partnerships and initiatives.	
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Program Growth

Successful implementation of computer science education in Arkansas requires encouraging school implementation, increasing teacher capacity, and growing student interest through the use of innovative programs and outreach initiatives.

<u>Task Title</u>	<u>Description</u>	<u>Start - Completion Date</u>
Documenting Teacher Capacity	In May of 2015 Anthony Owen, ADE Curriculum and Instruction Unit Specialist, collaborated with DIS/AELS Data Specialist to identify the number of high school educators teaching computer science courses across Arkansas and reported this information to the Computer Science Task Force Metrics subcommittee. Each school year the ADE State Director of Computer Science Education will collaborate with DIS/AELS Data Specialist to collect analogous data for comparison to the previous year(s) data and determine if any changes in what data collected is warranted. The State Director of Computer Science Education will maintain these data comparisons, including the process used to collect the data. http://dese.ade.arkansas.gov/divisions/special-projects/arkansas-computer-science-initiative/computer-science-communications	Ongoing
Documenting Student Enrollment	In May of 2015 Anthony Owen, ADE Curriculum and Instruction Unit Specialist, collaborated with DIS Data Specialist to identify the number of high school students enrolled in science courses across Arkansas and reported this information to the Computer Science Task Force Metrics subcommittee. Each school year the ADE State Director of Computer Science Education will collaborate with DIS Data Specialist to collect analogous data for comparison to the previous year(s) data and determine if any changes in what data collected is warranted. The State Director of Computer Science Education will maintain these data comparisons, including the process used to collect the data. The goal of the Task Force is to generate 20% growth in student interest in computer science related courses as measured by enrollment in the high school Programming I course (between the 2013-2014 and 2015-2016 school years). http://dese.ade.arkansas.gov/divisions/special-projects/arkansas-computer-science-initiative/computer-science-communications	Ongoing
Code.org Video	The ADE Commissioner's office will release a Commissioner's Memo to school districts encouraging them to share a video from Code.org with the school's students in order to generate student and faculty excitement about the 2015-2016 computer science courses.	May 2015

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The following is included for posterity.

Program Evaluation and Advising	The ADE State Director of Computer Science Education will research computer science programs and engage their representatives in discussions about how their programs can assist Arkansas in this initiative.	Ongoing
Recruitment and Retention	The ADE State Director of Computer Science Education will collaborate with the ADE's Recruitment and Retention Coordinator and support efforts to review efforts to attract and prepare computer science educators and encourage candidates to seek employment opportunities in the field of computer science.	Ongoing
Arkansas Computer Science Grant Opportunity	The ADE State Director of Computer Science Education will collaborate with the Director of Curriculum and Instruction to award and provide guidance for best use of grant funds awarded under Commissioner's Memo LS-15-068. Schools should be supported in their efforts to promote computer science education and build the local capacity to provide computer science instruction.	Ongoing
School Resource Development	The ADE State Director of Computer Science Education will collaborate with the DIS and other appropriate entities to develop recommendations for schools to build technological resource capacity.	Ongoing
Code.org 2015-2016 TOT Program	The ADE State Director of Computer Science Education will engage the ten-educator team that is representing Arkansas in the 18-month Code.org training in trainer of trainer development.	June 2016 - January 2017
Standards for Accreditation and Smart Core / Core Graduation Pathway Review	The ADE State Director of Computer Science Education will compile guidance from the Computer Science Task Force and computer science framework development committees and share outcomes with the Commissioner of Education. These suggestions could include recommendations for changes to Rules Governing Standards for Accreditation of Arkansas Public Schools and School Districts, requirements for high school graduation (Smart Core / Core), required 38 course offerings for high schools, the K-12 curriculum area descriptors.	February - March 2017

Initiative Partnerships

Partner	Partner Information
Facebook-Techstart / Arkansas MOU	http://governor.arkansas.gov/press-releases/detail/gov.-hutchinson-and-facebook-announce-arkansas-facebook-techstart-partnersh
Learning Blade	The Arkansas Department of Education Division of Elementary and Secondary Education Office of Computer Science in collaboration with the Arkansas Public School Resource Center (APSRC) have partnered to provide Learning Blade to all Arkansas public and public charter school students in the middle grades. http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=4135
Microsoft / Arkansas MOU	http://governor.arkansas.gov/press-releases/detail/gov.-hutchinson-signs-mou-with-microsoft-for-strategic-digital-alliance
AR Code Kids Non-Profit	https://www.arcodetokids.org/
Arkansas Computer Science and Technology in Public School Task Force Members	Dr. Tim Atkinson, Mr. Daryl Bassett, Dr. Charisse Childers, Mr. Tom Chilton, Mr. Gary Dowdy, Mr. Carl Frank, Dr. James Hendren (chair), Mr. David Hopkins, Dr. John James, Mr. Johnny Key, Mr. Andy Mayes, Dr. Suzanne Mitchell, Mr. Rasesh Patel, Dr. Brett Powell, and Mr. Dave Wengel http://dese.ade.arkansas.gov/public/userfiles/Learning_Services/Curriculum%20and%20Instruction/Resource%20Mat/Computer%20Science/taskforce/CSTF_12_16_Report.pdf
Industry Partnerships	Acxiom, Cyber Innovation Center NICERC, Metova, Verizon, AT&T, Code.org, Learning Blade, CSTA, Virtual Arkansas, ARIdeas
Arkansas Education Service Cooperatives	Arch Ford Education Service Cooperative/Plumerville, Arkansas River Education Service Cooperative/Pine Bluff, Crowley's Ridge Education Service Cooperative/Harrisburg, Dawson Education Service Cooperative/Arkadelphia, DeQueen/Mena Education Service Cooperative/Gillham, Great Rivers Education Service Cooperative/Helena-West Helena, Northcentral Arkansas Education Service Cooperative/Melbourne, Northeast Arkansas Education Service Cooperative/Walnut Ridge, Northwest Education Service Cooperative/Farmington, Ozarks Unlimited Resource Education Service Cooperative/Valley Springs, South Central Education Service

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	Cooperative/Camden, Southeast Arkansas Education Service Cooperative/Monticello, Southwest Arkansas Education Service Cooperative/Hope, Western Arkansas Education Service Cooperative/Branch, Wilbur D. Mills Education Service Cooperative/Beebe
Arkansas STEM Centers	Arkansas State University – Delta/ASU Delta STEM Education Center, Arkansas State University – Rural/ASU Rural STEM Education Center, Arkansas Tech University/ATU STEM Institute, Harding University/STEM Center for Mathematics and Science Education, Henderson State University/The STEM Center at Henderson State University, Southern Arkansas University/Southern Arkansas University STEM Center for K-12 Education, University of Arkansas/STEM Center for Math and Science Education (CMASE), University of Arkansas at Fort Smith/Institute for Math and Science Education, University of Arkansas at Little Rock/Arkansas Partnership for STEM Education, University of Arkansas at Monticello/UAM STEM Center, University of Central Arkansas/UCA Institute for STEM Professional Development and Education Research, University of Arkansas at Pine Bluff/UAPB Department of Biology-STEM Center
Arkansas Educational Renewal Zones (ERZ)	University of Arkansas/Northwest ERZ, University of Arkansas at Fort Smith/Western ERZ, Henderson State University/Southwest ERZ, Southern Arkansas University/Southern ERZ, University of Arkansas at Monticello/Southeast ERZ, Arkansas State University/Northeast ERZ