April 2021 *Monthly Newsletter* Vol 2 Issue 10

COMPUTER SCIENCE in ARKANSAS

FIVE TEACHERS NAMED 2021 COMPUTER SCIENCE EDUCATOR OF THE YEAR FINALISTS

The Arkansas Department of Education has announced the five educators selected as finalists for the 2021 Arkansas Computer Science Educator of the Year award.

The 2021 Arkansas Computer Science Educator of the Year Finalists are as follows.

- Carl Frank - Arkansas School for Mathematics, Sciences, and the Arts
- Ashley Kincannon – Lake Hamilton Junior High School (Lake Hamilton School District)
- Kimberly Raup – Conway High School (Conway School District)
- Stacy Reynolds – McGehee High School (McGehee School District)
- Lauren Taylor - Dardanelle High School (Dardanelle School District)

“The ADE Office of Computer Science received many quality applications,” Anthony Owen, the State Director of Computer Science Education, said. “This year’s applications were some of the most competitive we have seen in the three years of this award. Unfortunately, our team could only select five, and we selected the educators who best demonstrated both a long-term and ongoing commitment to, passion for, and impact on computer science education in Arkansas and the nation. These educators have earned and deserve this recognition."

Each finalist will receive a $2,500 award from the ADE Office of Computer Science. A panel of representatives from the ADE Computer Science Unit, the 2020 Arkansas Computer Science Educator of the Year, external industry leaders, and other education experts will review the finalists’ applications and select the 2021 Arkansas Computer Science Educator of the Year based on a rubric scoring system. The winner will be announced at a later date and will receive an additional $12,500 award.

To learn more about the ADE Office of Computer Science Education, go to cs.arkansas.gov.

SB107 PASSES THE 93RD GENERAL ASSEMBLY

The [Computer Science Education Advancement Act of 2021] - Act 414 of the 93rd General Assembly (Act 414), was signed into law by Governor Asa Hutchinson on March 23, 2021. This legislation is an extension of Act 187 of 2015, which established the requirement that every high school must make a computer science course available to students.

District and school leaders should note that the 2022-2023 school year is the first year that any requirements created under this legislation will take effect, which allows the 2021-2022 school year to be a planning and/or early implementation year.

Act 414 creates the following additional legislative requirements:

- Every student, beginning with the 9th grade class of 2022-2023, must earn one full high school computer science credit to graduate,
- At least four computer science courses will be approved by ADE for instruction to 8th grade students (in addition to 9-12 students),
- Digital course content aligned to state standards will be made available to schools, and
- Each high school must employ a computer science certified teacher by the 2023-2024 school year.

The following is a further explanation of each of these legislative requirements.

Graduation Requirement

The new requirement for every student to earn one full high school computer science credit to graduate (starting with the 9th grade class of 2022-2023) does not necessarily increase the number of state-required credits for graduation. The Triand business rules will be updated to search for, and identify, at least one course credit on the student's transcript which meets the requirement. Currently this is any course code that begins with 465 or 565. This credit may be earned by the student in 8th-12th grade.

As a reminder, course codes that begin with 465 or 565 have been approved as Computer Science Flex Credit bearing courses. The Computer Science Flex Credit allows a student's computer science credit to count towards the existing 4th math, 3rd science, and/or career focus credit requirements that already exist. A list of the high school courses, course codes, and required standards may be accessed at https://bit.ly/ARCSCourses.

Courses Approved for Instruction in the 8th Grade

On March 11, 2021, the Arkansas State Board of Education provided approval for any Arkansas Public School District to provide instruction and high school credit to 8th graders for nine Arkansas Computer Science and Computing courses. These nine courses may be provided to students in 8th-12th without any additional approval from ADE. More information can be found at http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=4695.

Digital Course Content

The Arkansas Department of Education (ADE) Office of Computer Science has expanded the availability of digital content through partners such as the Arkansas School for Mathematics, Sciences, and the Arts (ASMSA), Virtual Arkansas, and AState Upskill/Arkansas Public School Resource Center. The state will continue to expand upon these partnerships, while finding new opportunities for schools to provide high-quality digital instruction to its students. More information can be found at cs.arkansas.gov.

SB107 PASSES THE 93RD GENERAL ASSEMBLY

Certified Computer Science Teacher

A certified computer science educator must be employed in every high school in Arkansas beginning with the 2023-2024 school year.

Licensure codes that will meet this legislative requirement will include:

- 528 standard Computer Science licensure
- 5013 Computer Science Technical Permit for Classified Staff
- 5014 Computer Science Technical Permit
- 5016 Computer Science Approval Code

To support meeting this requirement, the ADE Office of Computer Science provides many options, with no cost to the schools and participants. More information on our state provided professional development may be found at https://bit.ly/CSforARPDDes.

Please view page two of the document found at http://bit.ly/CSforARCourseandTeacher for more information on the variety of pathways for individuals to earn the CS certification.

Additional information and resources, regarding Act 414, may be accessed at cs.arkansas.gov and https://bit.ly/CSforARACT2021. Always feel free to reach out to the computer science team at CSforAR@ade.arkansas.gov should you have any questions.

SPONSORS OF ACT 414

Senator Jane English of District 34 and Representative DeAnn Vaught of District 4 co-sponsored Act 414.

Senator English served two terms in the House of Representatives and has served in the Senate since 2013. Senator English is chairman of the Joint Performance Review Committee, serves on Education, State Agencies and Transportation Technology committees. She is also a member of the Arkansas Legislative Council and Budget committees and serves on other subcommittees.

Senator English, regarding Act 414, said "We are living in a digital world where it is important for every student to have exposure to computer science. No matter what career choice a student might make, technology will be part of that career."

Representative DeAnn Vaught is serving her fourth term in the Arkansas House. She represents District 4 which includes Little River County and portions of Sevier and Howard Counties. For the 93rd General Assembly, Rep. Vaught serves as Chairperson of the House Committee on Agriculture, Forestry & Economic Development. She also serves on the House Rules Committee, the House Education Committee, and the Arkansas Legislative Council.

Representative Vaught, regarding Act 414, said on the House floor "I want you to think about the jobs that are available to our students through computers and this right here [SB107] will give our students the opportunity to compete worldwide."

Senator Jane English

Representative DeAnn Vaught

SELECT YEAR 1 COURSES APPROVED TO BE TAUGHT TO 8TH GRADE STUDENTS

The Arkansas Department of Education (ADE) Office of Computer Science is pleased to announce that on March 11, 2021, the Arkansas State Board of Education provided approval for any Arkansas Public School District to provide instruction and high school credit to 8th graders for the following Arkansas Computer Science and Computing courses:

- Artificial Intelligence & Machine Learning - Year 1 (465410)
- Computer Engineering - Year 1 (465470)
- Cybersecurity - Year 1 (465270)
- Data Science - Year 1 (465710)
- Game Development and Design - Year 1 (465670)
- Mobile Application Development - Year 1 (465370)
- Networking - Year 1 (465170)
- Programming - Year 1 (465070)
- Robotics - Year 1 (465570)

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The approved grades in which each of these courses may be taught for high school credit will be 8th-12th grades instead of 9th-12th grades, beginning July 1, 2021.

Schools may teach these courses to students in 8th grade without submitting an approval request through the ADE Course Approval System.

Licensure requirements will remain the same, regardless of the grades in which the courses are offered.

This approval shall remain in effect until June 30, 2025 when the current Computer Science and Computing standards are set to expire.

Learn more at: **http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=4695**.

BOOK HIGHLIGHT: EMMY IN THE KEY OF CODE #ARKIDSCANCODE / #RISEARKANSAS

Emmy in the Key of Code was written by Aimee Lucido, the author of upcoming *Recipe for Disaster* (Versify, Spring 2021). She's a software engineer who has worked at Google, Facebook, and Uber, and she got her MFA in writing for children and young adults at Hamline University. - **https://www.amazon.com/Emmy-Key-Code-Aimee-Lucido/dp/0358040825**

Neena Wittenmyer, a 5th grade student, shared the following review of the book in a **CSforALL article**:

"Upcoming novel *Emmy in the Key of Code* was an amazing book that encourages girls to code, shows what it's like to be the new kid, and shows how teachers are inspiring and supportive.

In the book it talks about how Emmy doesn't know how to fit in at school. Should she join choir (but she has an awful voice), should she join computer coding (she doesn't know how and she thinks it's for geeks), should she join cooking, or try out for the school play?

Emmy joins the coding class and she is able to make music through coding. She loves the flow of writing code and it reminds her of songs. She also makes friends through the coding class including Abigail and Ms. Delaney.

Author Aimee Lucido describes Emmy, Abigail and Ms. Delany (characters in the book) in such a wonderful way that you will not be able to put the book down.

I would recommend this book to anyone who likes coding or wants to learn how to code, or likes 'candy-apple red lipstick', poetry, or music. I learned that anybody can code even if you have no experience doing it."

ARKANSAS COMPUTER SCIENCE AND COMPUTING EDUCATOR ACADEMY AND PUBLIC UNIVERSITY PARTNER REQUEST FOR PROPOSAL

As part of the Arkansas Computer Science and Computing Initiative, which was founded by Governor Asa Hutchinson, the Arkansas Department of Education (ADE) Office of Computer Science announced its planned creation of a Computer Science and Computing Educator Academy (CSCEA), scheduled for Monday through Friday of the weeks of June 14-18 & June 21-25, 2021.

The CSCEA, which will begin in the summer of 2021, will provide another option for Arkansas residents to:

- Learn basic computer science, which provides a starting point for new teachers to be successful,
- Receive preparation for passing the Computer Science Content Knowledge Praxis exam,
- Gain approval to teach high school computer science courses,
- Earn postsecondary credits for academy completion, and
- Expand skills in specialized areas aligned to state-adopted programs of study.

The **2021 CSCEA Information** will provide the candidate with additional information on the:

- Training Components,
- Participant Selection,
- CSCEA Participant Certification, Credit, and/or Grades,
- Candidate/Participant Responsibilities, and
- Application Procedure

Request for Proposal (RFP) for an Arkansas Public University Partner
ADE seeks an Arkansas public university to form a partnership with the ADE Office of Computer Science to provide postsecondary graduate credit for Arkansas residents completing a CSCEA.

The **RFP Packet** has instructions on how to submit a proposal.

For more information visit: **http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=4700**

LearningBlade® CORNER

Learning Blade Corner - a monthly snapshot of happenings with Learning Blade in AR.

Request a Virtual Learning Blade PD for yourself and/or your school.
Learning Blade is in its 5th year as a free statewide STEM/CS program for middle schools in Arkansas. In that time well over 1,500 teachers have attended a Learning Blade PD session. In a short 60-minute session you can be introduced and ready to implement Learning Blade's 400 online STEM/CS lessons, 100+ CS lessons, teacher lesson plans, and printable at-home activities to help your students review academic standards in the context of STEM/CS careers.

Learning Blade 1.0 helps teachers implement Learning Blade into their classroom or summer school, by training on how to set up classes, log students in, and assign lessons.

Learning Blade 2.0 looks more deeply into various STEM/CS PBL engagement activities, such as Design Thinking, 3D Printing, and Mission Challenges available in the Learning Blade.

"Learning Blade demonstrates to teachers and students the meaningful and relevant connections between core concepts and CTE pathway options and future career paths. In Learning Blade students see why math and science are important. Learning Blade provides a whole new level of career understanding." Dawn Stewart, Director-Career & Technical Education, Rogers Public Schools

Schedule your PD by emailing **info@learningblade.com** a few times and dates that work for you.

AP COMPUTER SCIENCE A SUMMER INSTITUTE - ADVANCED HIGH SCHOOL COMPUTER SCIENCE PROFESSIONAL DEVELOPMENT BONUS PROGRAM

The Arkansas Department of Education (ADE) Office of Computer Science announced the expansion of the **Advanced High School Computer Science Professional Development Bonus Program** to include Arkansas-based, College Board-approved, select Advanced Placement Summer Institutes (APSI) taking place during the summer of 2021. A listing of all Arkansas-based APSIs, and contact information for each, may be accessed at **http://bit.ly/ArkansasAPSI**.

Under this bonus program, Arkansas educators holding the 528 Computer Science Endorsement, 5016 Computer Science Approval Code, or 5014 Computer Science Technical Permit on their Arkansas Educator's License are eligible for bonuses for completion of approved advanced training sessions.

In addition to previously announced advanced training bonuses, the ADE Office of Computer Science will provide a bonus for completing an Arkansas-based College Board Advanced Placement Computer Science A (APCSA) Summer Institute. Though most of the APCSA APSIs are four or five days, participants will be eligible for $100 per day for a maximum of three days ($300 total). However, completion of all 30 hours of the APCSA APSI will be required to be eligible for any bonus amount.

To apply for the Advanced High School Computer Science Professional Development Bonus Program, educators must complete the application found at: **http://bit.ly/ADCSforARBonus**.

The bonus applicant will be required to upload a single PDF that contains documentation that demonstrates completion of the requirements of the bonus being sought.

All bonus payments will be made in accordance with **ADE Commissioner's Memo COM-20-097** released on March 6, 2020.

Educators receiving Advanced High School Computer Science Professional Development Bonuses are not disqualified from 5652 PRAXIS reimbursement.

More information may be accessed at: **http://bit.ly/CSforARBonuses** or **http://adecm.arkansas.gov/ViewApprovedMemo.aspx?Id=4717**

Funding for this bonus program is provided by ADE as part of Governor Asa Hutchinson's Computer Science Initiative. The bonus program is subject to the availability of funding and allowable appropriation of funds.

The program may be canceled, and amounts awarded under the program are subject to change, with or without advanced notice at the discretion of ADE.

2021 COMPUTER SCIENCE STUDENTS OF DISTINCTION

The Arkansas Academy of Computing (AAoC) is looking for outstanding students who have demonstrated their commitment to Computer Science education to be recognized as 2021 Computer Science Students of Distinction (CSSoD).

The CCSoD was established in 2020 by the AAoC in partnership with the Arkansas Department of Education (ADE) to highlight high school juniors and seniors each year for their achievements in computer science education.

Founded in 2006, the AAoC recognizes persons who have made significant and sustained contributions to the computing industry with ties to the State of Arkansas. The Academy also provides scholarships to students pursuing degrees in computer technology fields at Arkansas Institutions of Higher Education and promotes technology education and jobs at all levels.

The CCSoD program is open to students currently enrolled in the 11th or 12th grade in an Arkansas public, private, or home school. The following criteria are used to select the recipients of this award:

- Computer Related Academic Achievement
- Competitive Achievement
- Personal Achievement
- Service Achievement

Arkansas Academy of Computing
Making a Difference in Computing and Information Technology

Because of the inaugural program's success, many more partners have joined with the Academy and ADE this year. For the 2021 program, new partners in CCSoD include Arkansas CSforAll, the Arkansas Computer Science Teacher Association, the Arkansas STEM Coalition, and the Arkansas Community Foundation.

"The Arkansas Academy of Computing was founded to advocate for the positive impact that computing and information technology education can have on our state, our communities, and the people of Arkansas," said Eugene Jones, President of AAoC. "The CCSoD program is an inspiring way to do that at the beginning of this 'pipeline' of innovation and vocational skills development. These students will lead us into the next wave of our rapidly changing world. We are especially grateful that so many other great partners also see this program as a powerful and positive opportunity for the students of Arkansas."

For more information, including a link to the application, please visit:
https://arkansasacademyofcomputing.wildapricot.org/CSSoD

The deadline for applications is 11:59 pm, April 15, 2021.

To see the inaugural honorees of CCSoD, visit:
https://arkansasacademyofcomputing.wildapricot.org/Computer-Science-Students-of-Distinction/

For more information about the Academy, visit araoc.org or contact Eugene Jones, Academy President, at ejones@connect4business.com.

NORTHCENTRAL EDUCATION COOPERATIVE SPRING UPDATE

This story was submitted by Monica Mobley, Science Specialist at Northcentral Arkansas Education Service Cooperative.

The Northcentral Education Cooperative held its second annual "Codify This!" computer science competition on March 11th-12th. This competition consists of tiered challenges that require the K-12 participants to showcase their coding skills through a variety of activities. March 11th was the K-6 competition. Kindergarten students don't compete so much as they "play" with programmable devices to get introduced to the basics of coding. Grades 1-3 had challenges involving Sphero's draw feature, followed by a more challenging attempt to use block code or draw to follow a path which formed the letters CS. Finally, in their most difficult challenge, students had to use Scratch to program a scenario described in their competition instructions.

March 12th was the 7-12 competition. In grades 7-9, students had to correctly program a Microbit using provided materials to serve as a musical instrument. They then had to use Javascript to work a Sphero through a challenging obstacle course. Finally, students had to program a game given a set of criteria. The 10-12 students began with the same Microbit activity. They then had to write a program to perform a specific function, a "State Capitol" calculator which receives the state as input and then outputs the capital, with constraints on appearance, style, and interactivity. Finally, students had to recreate a "special project" of their choice during the competition time.

The Northcentral Education Cooperative hopes the competition will continue to grow over the years as the importance of teaching students computer science literacy and mindsets such as logical thinking and problem solving are recognized in the districts. Congratulations to participating schools: Batesville (Eagle Mountain Elementary), Izard County Consolidated Elementary, Mountain Home (Pinkston Middle and Mountain Home Career Academies), and Salem Jr/Sr High. We applaud your students for a job well done!

COMPUTER SCIENCE NEWSLETTERS

The CSforAR Team has several printed versions of past CSforAR Newsletters. If you would like a printed version, please reach out to Emily Torres at emily.torres@ade.arkansas.gov. The news-letters will be given out on a first come first serve basis.

UPCOMING TRAINING

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