COMPUTER SCIENCE
in
ARKANSAS

Women's History Month
Computer Science Edition

WOMEN'S HISTORY MONTH RESOURCES FOR COMPUTER SCIENCE

We invite you to join the CSforAR Team as we celebrate Women's History Month! Throughout the month, we will celebrate the achievements and contributions women have made to the field of Computer Science.

This month we will focus on many of the women who paved the path for us and those who are continuing to blaze the path ahead.

CS Specialist, Tammy Glass has put together a Women's History Month: Computer Science Edition choice board highlighting five of these amazing women. The document includes links to articles, videos, and research about each person. At the bottom on the board, you will find activities that can be completed with one or all the women.

We hope that you and your students will enjoy learning about some of the wonderful work being done in the field of computer science.

Join us in celebrating the lives of these remarkable individuals, and share with us how you and your class are celebrating Women's History Month! You can share your stories with us at CSforAR@ade.arkansas.gov.

Ada Lovelace

Marie Van Britton Brown

Radia Perlman

Marian Croak

Carol Shaw

Research Project
Research and develop a paper utilizing a guided digital notebook

Digital Story with Scratch
Create an interactive digital story through code using the free program Scratch

Multimedia Project
Create a biography using infographics, presentations, or video

Develop a Retro Game
Create a retro video game that you can play on your phone or computer

Chatbots Using AI
Create and train a chatbot that will allow you and others to interact with it

RULES FOR ACT 414 PASSED BY STATE BOARD OF EDUCATION

Taken from: https://adecm.ade.arkansas.gov/ViewApprovedMemo.aspx?Id=5060

On February 10, 2022, the Arkansas State Board of Education (SBE) approved changes to the passed rules aligned to the Computer Science Education Advancement Act of 2021 - Act 414 of the 93rd General Assembly. These are found first within the Division of Elementary and Secondary (DESE) Rules Governing Grading Scales and Course Credit and secondly, in the DESE Rules Governing Standards for Accreditation of Arkansas Public Schools. These rules provide clarification on the two primary requirements of Act 414, which was signed into law by Governor Asa Hutchinson on March 23, 2021.

This 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 take effect, which allows this current school year to be a planning and/or early implementation year.

Pursuant to Act 414 and the rules passed by the SBE on February 10, 2022,

- beginning with the 9th grade class of 2022-2023, every student will be required to earn one credit in a high school Computer Science or Computing Course for graduation, and
- beginning in the 2023-2024 school year, every public high school must employ at least one high school computer science certified teacher.

It is important that schools and their administrators also understand the following clarifications, especially in terms of what constitutes a certified computer science teacher.

Graduation Requirement

This 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 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 Grades 8-12.

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.

RULES FOR ACT 414 PASSED BY STATE BOARD OF EDUCATION CONT.

Certified Computer Science Teacher

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

"Computer science teacher" - an individual who holds an Arkansas teaching license or technical permit that includes a computer science certification, endorsement, approval, or technical permit code that meets the Division's requirement for a computer science teacher.

Beginning with the 2023-2024 school year, a public school district shall employ a computer science teacher at each high school in the district. **The computer science teacher shall be the teacher of record for at least one course each school year through which a student may earn a computer science credit.**

A computer science teacher may be shared among high schools within the same public school district provided the computer science teacher acts as the teacher of record at each high school in accordance with the previous bullet.

Licensure codes that will meet the Certified Computer Science Teacher requirement currently include:
* the 528 standard Computer Science licensure,
* the 5013 Computer Science Technical Permit for Classified Staff,
* the 5014 Computer Science Technical Permit, and
* the 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.

The ADE Office of Computer Science is available to assist Arkansas educators in determining which of our many flexible pathways to CS certification would best fit their school's needs. You can contact the CSforAR Team at CSforAR@ade.arkansas.gov.

How are you celebrating Pi Day (March 14th)?

No matter how you slice it, STEM and Computer Science careers include the need for mathematical knowledge.
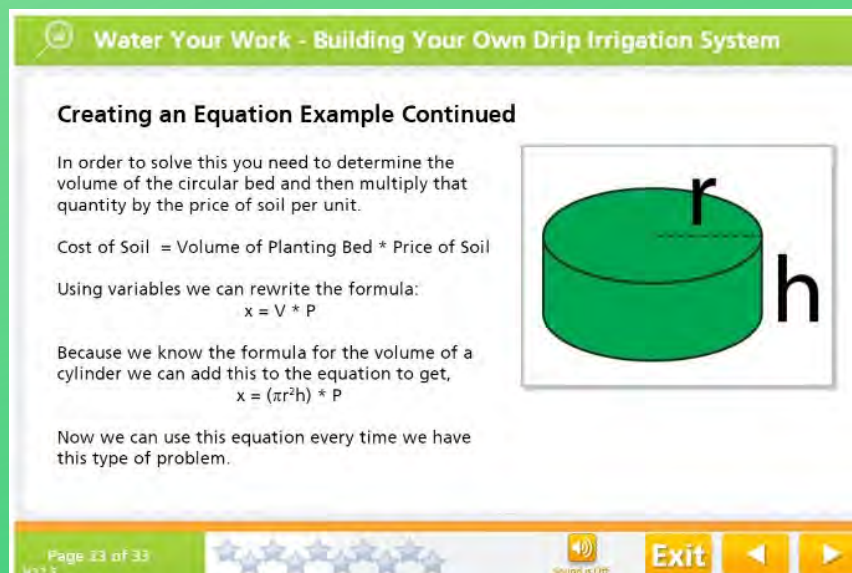
There are hundreds of math lessons in Learning Blade showing the connection of math to real-world problem-solving. 93% of teachers surveyed responded that Learning Blade helps show students real-world connections to math standards.

Try using Learning Blade's lesson "Building Your Own Drip Irrigation System" in our Fresh Food Mission which shows students how Pi might be utilized in real-world scenarios such as designing a drip irrigation system for circular beds.

Or check out the Transportation Mission lesson called "As The Crow Flies" that teaches the Pythagorean theorem to estimate the real distance of travel.

Sign up for your free Learning Blade account at **www.LearningBlade.com/AR**.

For more information email us at **info@learningblade.com**.

Water Your Work - Building Your Own Drip Irrigation System

Creating an Equation Example Continued

In order to solve this you need to determine the volume of the circular bed and then multiply that quantity by the price of soil per unit.

Cost of Soil = Volume of Planting Bed * Price of Soil

Using variables we can rewrite the formula:
$$x = V * P$$

Because we know the formula for the volume of a cylinder we can add this to the equation to get,
$$x = (\pi r^2 h) * P$$

Now we can use this equation every time we have this type of problem.

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ARKANSAS COMPUTER SCIENCE AND COMPUTING EDUCATOR ACADEMY

The ADE Office of Computer Science announced opportunities for the 2022 Arkansas Computer Science and Computing Educator Academy (CSCEA). Upon completion of the CSCEA, participants may be eligible for one of the approved licensure codes. More information on the CSCEA may be accessed at: **https://adecm.ade.arkansas.gov/ViewApprovedMemo.aspx?Id=5059**

2022 COMPUTER SCIENCE STUDENTS OF DISTINCTION

The following was shared by Carl Frank, CSTA Arkansas President/member of the Arkansas Academy of Computing/CS educator, over the ARKidsCanCode Listserv.

The application window for the 2022 Arkansas Computer Science Students of Distinction Award (CSSoD) is now open. The deadline for applications to be submitted is 11:59 pm, March 18, 2022. The competition is open to all Arkansas High School Juniors and Seniors.

"The CSSoD is an award program for High School Juniors and Seniors who are interested in pursuing a career in Computer Science. The program, which is facilitated by the Arkansas Computer Science Initiative, is administered by the Arkansas Academy of Computing. The AAOC is comprised of more than 201 members who have demonstrated a significant impact on computing in Arkansas." - https://arkansasacademyofcomputing.wildapricot.org/

Award winners will be chosen based on:
- Computer Related Academic Achievement
- Competitive Achievement
- Personal Achievement
- Service Achievement

Students with the highest overall scores will be forwarded to a final AAoC selection committee which will make the final determination as to who will be recognized as Computer Science Students of Distinction.

Winners will receive a certificate and recognition on our Students of Distinction Alumni page.

Students should follow the 4-step process outlined below to complete the application:

1. Obtain transcripts and place them into one pdf for uploading
2. Prepare a portfolio (see template for details). A link to the portfolio (must be made shared), or the portfolio document will be uploaded during the application process
3. Complete the ADE Media Release Form
4. Complete the 2022 Application.

If you run into trouble, you can view the Frequently Asked Questions page.

For more information visit: https://arkansasacademyofcomputing.wildapricot.org/CSSoD

Teachers, please alert your 11th or 12th grade students to this opportunity. Prior to submitting their application, they should create their portfolio, obtain their high school and college transcripts, and have their parent or guardian complete the ADE Media Release Form.

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

TRICE ELEMENTARY ROBOTICS TEAM ADVANCES TO STATE

This story was submitted by Julie Carver, Robotics Team Sponsor with Trice Elementary School.
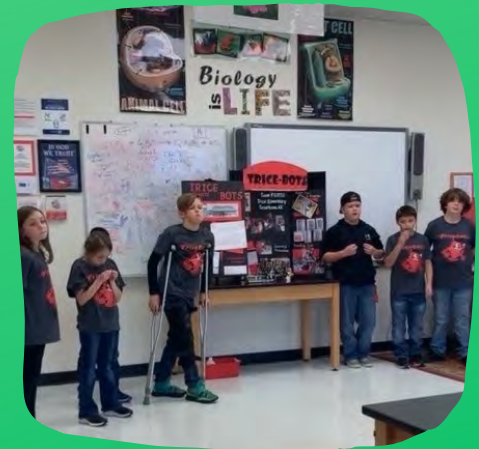
The Trice Elementary robotics team recently competed in the FIRST LEGO League Competition. The 3rd through 5th grade team, named Tricebots, is led by Julie Carver, robotics sponsor.

FIRST LEGO League introduces science, technology, engineering, and math (STEM) to children ages 4-16 through fun, exciting, hands-on learning. Participants gain real-world problem solving experience through a guided, global robotics program.

The Tricebots finished in 6th place after competing in the Cargo Connect Challenge and qualified to advance to the Arkansas state competition on January 22, 2022. Tricebots' concept was to construct a Package Depot in various neighborhoods where packages could be delivered and customers could pick up their items at their leisure.

The Tricebots' presentation highlighted how the Package Depot would ease shipping congestion, increase the speed of delivery in the transportation industry, and create safe and secure delivery locations. Additionally, the Package Depot would help eliminate package theft or damage due to weather.

Pictured: Bella Wright, Linley Nine, Ricky Lee, Slade Wright and Ms. Julie Carver
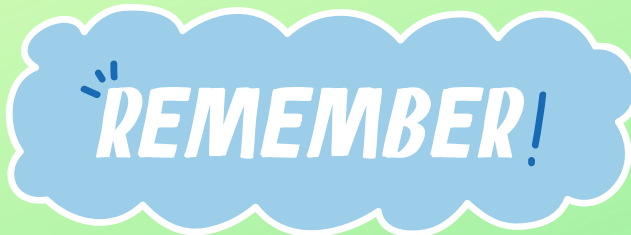
BERYL HENRY ELEMENTARY CODING CLUB

This story was submitted by Sandra Rhone of Beryl Henry Elementary School Coding Club.

Beryl Henry's Coding Club incorporates various speakers for participants. They have had special speakers such as Special Agent Corwin Battle, 2021 CS Educator of the Year Ashley Kincannon, and CS Specialist Leslie Savell.

Special Agent Battle with Arkansas State Police (Troop G) shared with Beryl Henry Elementary students how law enforcement utilizes computer science to focus on solving cases involving security and forensics. Coding Club students were able to ask questions related to STEM Careers in Law Enforcement.

Savell led students in creating interactive coding posters for Black History Month. Students researched various Black historical figures and made them come to life using the Makey Makey.

Innovation in Computer Science School Grant Program

Don't miss your opportunity to apply for the Computer Science and Computing Innovation Grant for Arkansas public K-12 schools!

This opportunity includes up to $250,000 in total reimbursement funding that has been allocated for the purchase of curriculum, software licenses, non-fundamental equipment, professional development, student incentives, and other approved expenses that directly support the instruction of the ADE K-12 Computer Science and Computing Standards.

Visit **https://adecm.ade.arkansas.gov/ViewApprovedMemo.aspx?Id=5003** for more information.

For any questions, reach out to our team at **CSforAR@ade.aransas.gov.**

GRANT

Computer Science Educator Bonus Program

Applications are now being accepted until March 15, 2022.

This is the final application window to apply for the bonus for the 2021-2022 school year. Apply before it's too late!
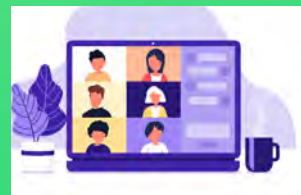
All bonus application systems may be accessed at: **https://csforar.info/Bonuses**

For more information visit **Commissioner's Memo COM-22-001**.

UPCOMING TRAINING

bit.ly/CSforARPD

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#ARKidsCanCode #CSforAR

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