

Learning Expectations in Arkansas Schools

2022 ADEQUACY STUDY

May 2, 2022

Prepared for the Interim Senate Committee on Education
and the Interim House Committee on Education



2022 Adequacy Report



Table of Contents

Introduction	1
Academic Standards	2
Required Courses	2
Graduation Requirements and Smart Core	5
Graduation Requirements in Comparison States	6
College and Career Readiness	7
Advanced Courses	8
Advanced Placement and International Baccalaureate.....	8
Concurrent Courses.....	10
Weighted and Concurrent Career Focus Courses.....	10
Gifted and Talented	10
Reading Initiative for Student Excellence (R.I.S.E.)	11
Arkansas Computer Science Initiative	12
Remote/Digital/Distance Learning	13
Student Performance	14
National Research	15
2021 Legislation	16
Act 251	16
Act 259	16
Act 414	16
Act 489	16
Act 536	16
Act 544	16
Act 544	16
Act 545	16
Act 552	16
Act 606	17
Act 611	17
Act 644	17
Act 663	17
Act 684	17
Act 730	17
Act 757	17
Act 897	17
Act 912	17
Appendix A – ADE 38 Required High School Courses	18

Introduction

Educators since the beginning of time have had to decide which material they deem most important for their students to learn. What do they teach them? How do they teach it? And what do they leave out of their lessons? The state of Arkansas has expressed the intent of what public school students should learn in law, rule and in the definition of adequacy as adopted by the Senate and House Education Committees in the biennial adequacy study process.

Act 930 of 2017, codified in Arkansas Code §6-15-2901 et seq., created the Arkansas Educational Support and Accountability Act and directs the Department of Education (ADE) to establish “academic standards that define what students shall know and be able to demonstrate in each content area.” Furthermore, instruction in all public schools is to be based on the academic standards “to prepare students to demonstrate the skills and competencies necessary for successful academic growth and high school graduation.” The standards, the law further states, shall be reviewed periodically “to ensure that the Arkansas academic standards are rigorous and prepare students for college, career, and community engagement.”

The Arkansas Rules Governing Standards for Accreditation of Arkansas Public Schools and School Districts, effective July 2020, addresses curriculum and instruction in Standard 1-A (found in Appendix A of the Rules). In addition to specifying that each public school district board of directors annually adopt and implement a curriculum aligned to the Arkansas Academic Standards, the courses to be taught at each grade level are listed. These include an overview of the “required 38 units” that are to be offered at the high school (grades 9-12) level.

Finally, the adequacy definition approved by the Senate and House Education Committees in its 2020 Educational Adequacy Study includes this language in its first paragraph:

The standards included in the state’s curriculum and career and technical frameworks, which define what Arkansas students are to be taught, including specific grade level curriculum and a mandatory thirty-eight (38) Carnegie units defined by the Arkansas Standards of Accreditation to be taught at the high school level.

The “adequacy study statute”—ACA §10-3-2102 – requires the General Assembly “to assess, evaluate and monitor the entire spectrum of education across the State of Arkansas to determine whether equal educational opportunity for an adequate education is being substantially afforded to the school children of the State of Arkansas... .” In addition, the statute requires an evaluation of what constitutes an adequate education as well as an evaluation of the method of providing equality of educational opportunity. As part of that process, the legislature shall biennially review the academic standards (referred to in the statute as the “curriculum frameworks” before Act 936 of 2017) developed by ADE’s Division of Elementary and Secondary Education (DESE).¹ This report represents the current review of those standards as well as specific educational programs in place for Arkansas students.

¹ Ark. Code Ann. § 10-3-2102(f)(2).

Academic Standards

The current standards used by public school teachers throughout the state are called the Arkansas Academic Standards and are currently posted on the Division of Secondary and Elementary Education's website. These provide by grade level and/or subject area the specific content that is to be covered in each course. Standards are reviewed and revised periodically, generally every six years or so. The process involves a committee of educators and stakeholders with professional experience related to the academic content area being discussed meeting over a course of weeks to review and update the academic standards, which then must be approved by the State Board of Education.² Standards have been created for the following areas:

- **Computer Science** (implementation of current standards began in the 2021 school year for grades K-8; the next revision is set for 2024)
- **English Language Arts** (implementation of current standards began in the 2018 school year; the next revision is set for summer 2023)
- **Fine Arts** (implementation of current standards began with the 2022 school year; no revision date is listed)
- **Health and Physical Education** (implementation of current standards began with the 2020 school year; no revision date is listed)
- **Library Media Services** (implementation of current standards began with the 2020 school year; no revision date is listed)
- **Mathematics** (implementation of current standards began with the 2018 school year; the next revision is set for summer 2022)
- **Science** (implementation of current standards began with the 2017 school year for grades K-4, with the 2018 school year for grades 5-8 and with the 2019 school year for grades 9-12; the next revision is set for summer 2024)
- **Social Studies** (implementation of current standards began with the 2015 school year; revision was set in summer 2021 with full implementation set for the 2024 school year)
- **World Languages** (implementation of current standards began with the 2021 school year; no revision date is listed)

Required Courses

The courses required to be taught at each grade level can be found in the Standards for Accreditation, Appendix A, Standard 1.

In grades K-4, all students must receive instruction annually in:

- English Language Arts
- Mathematics
- Science
- Social Studies
- Fine Arts
- Health and Safety Education and Physical Education
- 1 unit of Arkansas history to be taught at each elementary grade level with an emphasis in 4th grade
- 40 minutes of the instructional day are to be used for recess

² A.C.A. § 6-15-2906(b) and (c) "Arkansas Academics Standards Revision Cycle" found at https://dese.ade.arkansas.gov/Files/20201209101511_Standards-Revision-Cycle.pdf.

In grades 5-8, all students must receive instruction annually in:

- English Language Arts
- Mathematics
- Science
- Social Studies
- Fine Arts
- Health and Safety Education and Physical Education
- Career and Technical Education
- 1 unit of Arkansas history to be taught with an emphasis in 5th grade; 1 full semester of Arkansas history to be taught to all students in the 7th, 8th, 9th, 10th, 11th or 12th grades

In grades 9-12, the following content areas are to be offered annually for a total of 38 unique units, or year-long courses (a minimum 120 clock hours over a minimum 178 school days)³, unless otherwise allowed by law or rule. Until 2015, schools were considered in violation of accreditation standards if they did not teach all 38 of the required units without a corresponding waiver from teaching one or more of the required units. Act 853 of 2015 changed that, specifying in its subtitle that, “a school district is not in violation of the standards of accreditation for Arkansas public schools and school districts if a school district offers a course but no students enroll in the course.”⁴

Within some of these content areas are specific courses that are required, while others are courses with their own sets of academic standards that schools may offer. The required courses for the 2021 school year in each content area are noted in parentheses.

- English Language Arts – 6 units (English 9, English 10, English 11, English 12 [English 11 and 12 can be replaced with four approved, semester-long courses] and Approved Advanced Placement offerings)
- Science – 5 units (Physical Science Integrated, Biology Integrated, Chemistry Integrated, Computer Science Flex, Approved AP offerings)
- Mathematics – 6 units (Algebra I, Geometry I, Algebra II, Pre-Calculus I, Approved Advanced Placement offerings)
- Computer Science – 1 unit
- Foreign Languages – 2 units of the same language
- Fine Arts – 3 ½ units (Visual Art 1, Vocal Music 1)
- Social Studies – 4 units (U.S. History Since 1890, World History Since 1450, Civics (1/2 unit), Economics and Personal Finance (1/2 unit, Approved Advanced Placement offerings)
- Health and Safety Education and Physical Education – 1 ½ units
- Career and Technical Education – 9 units of sequenced courses representing three occupational areas

Schools must also offer transitional courses in math and literacy which are designed to be rigorous courses to prepare students for college coursework. About 1,750 students statewide were enrolled in each of these courses.

³ Arkansas Division of Elementary and Secondary Education rules Governing Standards for Accreditation of Arkansas Public Schools and School Districts, Effective July 1, 2020, Appendix A, Standard 1-A.1.3

⁴ A.C.A. § 6-15-213(1)(B)

The specific courses within these content areas are updated in a separate document annually, which is approved by the State Board of Education generally during the second semester of the school year preceding the fall of the school year in which they will be required. The courses approved for the 2021 school year were approved by the state board in January 2020. (Please see [Appendix A](#).) The main change from the previous year was the addition of 10 semester courses focusing on specific career pathways for Literature, Communications and/or Technical Professions. Each pathway has a revised set of English Language Arts 11/12 standards that are tailored to the course and that 11th and 12th grade students are allowed to take in place of the English 11 and English 12 requirements for graduation.

In presenting to the State Board on Jan. 9, 2020, Stacy Smith, now a DESE Deputy Commissioner but then DESE’s Assistant Commissioner for Learning Services, told the board she did not expect many schools to begin offering these courses in the 2021 school year because, “It takes time for them to make a big decision like this, to switch over from yearlong courses to semester courses.”⁵ In 2021, about 25,000 students statewide were enrolled in English 11 and about 20,000 in English 12. All ten of the new semester courses also show enrollment, however, with the most popular being Film as Literature with just over 550 students enrolled statewide each semester.

The chart below shows details about the number of schools teaching these courses and the corresponding enrollment numbers. While 22 districts and open-enrollment public charter school systems taught Film as Literature, only one district – Marmaduke – taught Reading and Writing for STEM Professions.

Course	# Districts	# Schools	Fall Enroll	Spring Enroll
English 11/12: Comparative Literature	4	4	58	57
English 11/12: Cross-Cultural Literature	5	5	68	68
English 11/12: Entrepreneurship and Innovation	5	5	77	76
English 11/12: Film as Literature	23	23	568	562
English 11/12: Mass Communications	10	10	274	259
English 11/12: Public Relations	4	4	163	138
English 11/12: Reading and Writing for Business Professions	8	8	149	170
English 11/12: Reading and Writing for STEM Professions	1	1	22	19
English 11/12: Technical Reading and Writing for Trade & Industry	9	9	137	132
English 11/12: U.S. History Seminal Documents	4	4	43	37

NOTE: Fall enrollment is DESE Cycle 2 data; Spring enrollment is DESE Cycle 6 data.

Sixty-five schools operate under waivers from laws and rules requiring Arkansas’s curriculum. These range from the broad waiver for “required instruction” in high school (four charter high schools) to waivers from specific courses such as Arkansas history, fine arts or career and technical education in certain grades. These also include waivers from gifted and talented programs as well as concurrent credit and Advanced Placement courses. These do not include waivers from alternative learning environment programs or from career and technical education courses. These also do not include waivers from recess in elementary schools.⁶

⁵ Transcript for State Board of Education Meeting, Jan. 9, 2020, page 100, lines 13-16.

⁶ Get law. In 2021, 349 schools in 137 districts and charter school systems operated under waivers from this requirements.

Graduation Requirements and Smart Core

Arkansas Code Annotated §6-15-2901 et seq. directs the Department of Education to establish and regularly review the academic standard “to ensure that the Arkansas academic standards are rigorous and prepare students for college, career, and community engagement.” The graduation requirements are courses identified within the required 38 units that are to be offered. Although there is flexibility of courses that can be taken within the content areas, the requirements set by the State Board of Education call for students to successfully complete 22 units before graduation.

Smart Core is the default high school curriculum required for graduation. However, students’ parents or guardians may request a waiver beginning in middle school or junior high. Of the students in grades seven through 12, 6,223 statewide, or 2.8%, were coded as having waivers from Smart Core in the 2021 school year. That percentage is lower than it was five years ago (2017 school year) when 5.1% of seventh- through 12th-graders had waivers from Smart Core.

The list below is of the number of units required in each content area for students to graduate with a Smart Core diploma, followed by a listing of the specific courses students must take in those content areas. The asterisk denotes when the requirement differs for students with waivers from the Smart Core curriculum.

- 4 units of English Language Arts – English 9, English 10, English 11 and English 12 (or four of the approved half units described above may be completed in place of English 11 and 12 starting with the 2021 school year)
- 4 units of Mathematics – Algebra 1, Geometry, Algebra II and an ADE Approved Mathematics or Computer Science Flex*
- 3 units of Science
- 3 units of Social Studies
- .5 units of Physical Education
- .5 units of Fine Arts
- .5 units of Oral Communication
- .5 units of Health and Safety
- 6 units of Career Focus or Content Electives

*Algebra II and/or the fourth math/computer science courses may be replaced by other approved courses when Smart Core is waived.

In addition to successfully completing the 22 required courses for graduation, students must complete a digital course for credit, earn a credit in a course that includes Personal and Family Finance, pass the Arkansas Civics Exam and complete cardiopulmonary resuscitation (CPR) training.

GRADUATION REQUIREMENTS IN COMPARISON STATES

Below are graduation requirements for each of the top-performing states on the National Assessment of Educational Progress overall and among fellow Southern Regional Board of Education states, and among Arkansas and all contiguous states.

NAEP State	Total Credits	English	Math	Science	Social Studies	Arts
Massachusetts	LD	LD	LD	LD	LD	LD
New Jersey	24	4	3	3	4.5	1
New Hampshire	20	4	3	2	2.5	.5
Minnesota	21.5	4	3	3	3.5	1
Wyoming	13	4	3	3	3	NA
Virginia	22	4	3	3	4	NA
Vermont	20	4	3	3	3	1
Indiana	20	4	3	3	3	NA
Connecticut	20	4	3	2	3	NA
Utah	24	4	3	3	3.5	1.5

SREB State	Total Credits	English	Math	Science	Social Studies	Arts
Virginia	22	4	3	3	4	NA
Florida	24	4	4	3	3	NA
Maryland	21	4	3	3	3	1
No. Carolina	22	4	4	3	4	NA
Kentucky	22	4	3	3	3	1
Georgia	23	4	4	4	3	NA
Tennessee	22	4	4	3	3.5	1
Texas	22	4	3	3	3	1

Contiguous	Total Credits	English	Math	Science	Social Studies	Art
Missouri	24	4	3	3	3	1
Tennessee	22	4	4	3	3.5	1
Texas	22	4	3	3	3	1
Oklahoma	23	4	3	3	3	1
Arkansas	22	4.5*	4	3	3	.5
Mississippi	24	4	4	4	4	1
Louisiana	23	4	4	2	2	NA

Source: SOURCE: National Center for Education Statistics Table 3.3 State course credit graduation requirements for high school graduation, by state: 2018, citing Achieve, *Graduating Ready Data Explorer*, retrieved at https://nces.ed.gov/programs/statereform/tab3_3-2020.asp

Note: LD=local decision; NA=not applicable

*Includes ½ unit of required oral communications in Arkansas, is additional to English requirement.

College and Career Readiness

Readiness for college and career has been a focus for public education in recent decades, though definitions vary from state to state and from organization to organization. Arkansas's current definition of college and career readiness is located in A.C.A. §6-15-2903(2) as part of the definition for the mandated college and career readiness assessment. The assessment is "a set of criterion-referenced measurements of a student's acquisition of the knowledge and skills that the student needs to [b]e successful in future endeavors, including credit-bearing, first-year courses at an institution of higher education such as a two-year or four-year college, trade school, or technical school; or [e]mbark on a career."

When Augenblick, Palaich and Associates (APA), hired by the Senate and House Education Committees in 2020, presented its Arkansas School Finance Study, one of the consultant's recommendations was for Arkansas "to adopt a career readiness definition that includes: (1) core academic knowledge and skills, (2) capabilities, (3) behavior skills and dispositions, and (4) postsecondary preparation and planning." APA recommended the following definition, which, if adopted, would place Arkansas among the other 15 or so states that include capabilities, behavior skills, and college and career preparation knowledge and skills in their definitions of college and career readiness:

Upon high school graduation, Arkansas students should be prepared to take the next steps toward a career regardless of whether that is college (two- or four-year), a technical program, military service, or an entry-level career position.

More specifically, an Arkansas student who is career ready will have:

- *Gained core academic knowledge in mathematics, science, and English language arts to enable them to successfully complete credit-bearing, first-year courses at a postsecondary institution.*
- *Demonstrated capabilities such as communication, critical thinking, collaborative problem-solving, time management, and information and technology skills.*
- *Developed behavioral skills and dispositions such as dependability, perseverance, working effectively with others, adapting, and managing stress.*
- *Developed financial literacy.*

All Arkansas students should be guided in career exploration, planning, and decision-making throughout their K–12 education to enable them to successfully navigate their chosen career path. This includes knowledge of careers, industries, and postsecondary education and training opportunities, identification of individual interests and abilities, and development of a personalized postsecondary plan with the concrete steps that need to be taken to enter a specific career field after graduation. Further, students should have had opportunities to participate in advanced, concurrent enrollment, career and technical education (CTE) or other career-focused courses, internships, and apprenticeships to demonstrate that they are career ready.⁷

⁷ Augenblick, Palaich and Associates, WestED and Partners, "Arkansas School Finance Study," prepared for the Arkansas Senate and House Education Committee, December 2020.

Advanced Courses

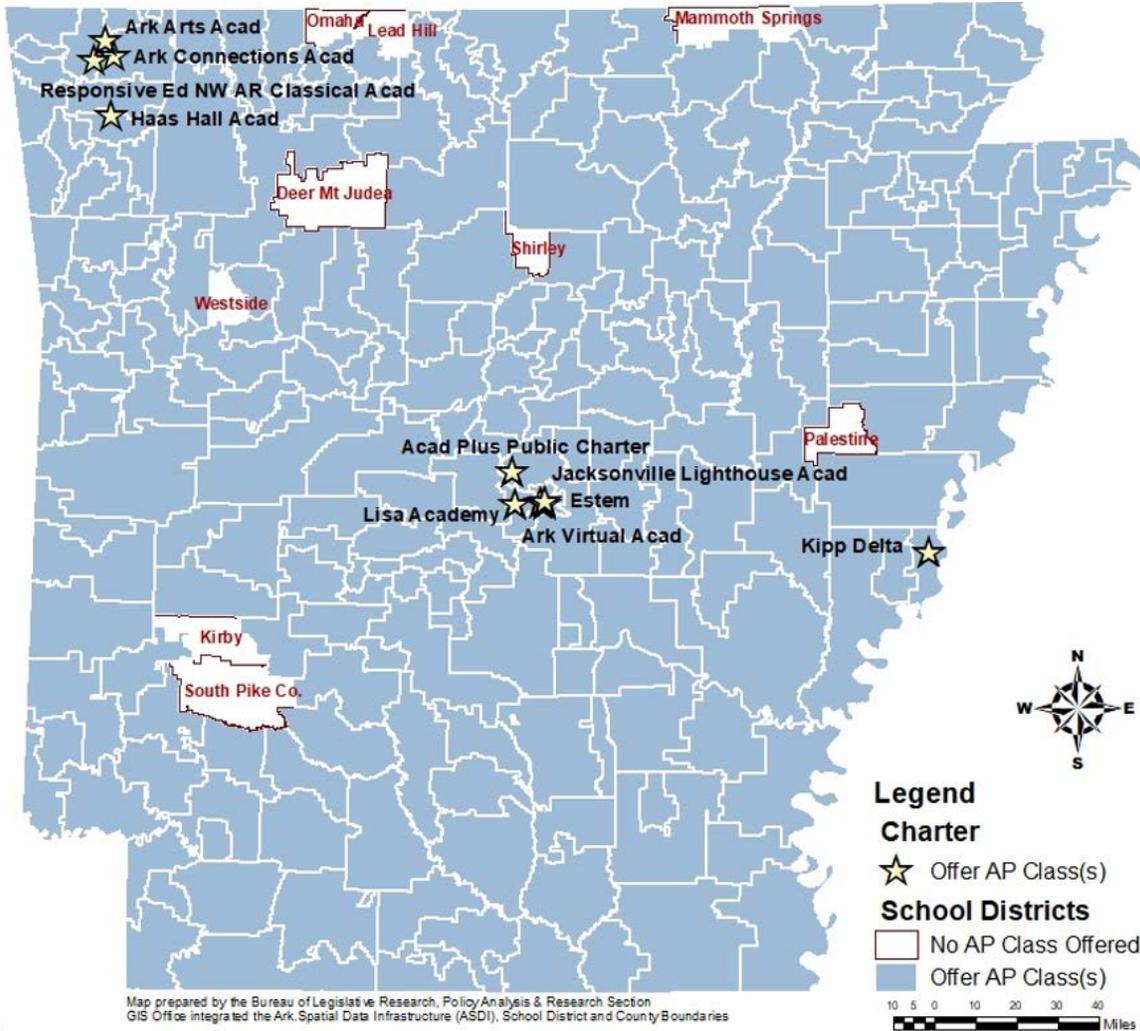
ADVANCED PLACEMENT AND INTERNATIONAL BACCALAUREATE

The Standards for Accreditation call for advanced education courses to be offered in accordance with Arkansas laws and with ADE rules. Arkansas Code Annotated §6-16-1204 stipulates that, beginning with the 2008-09 school year, each Arkansas high school shall offer a minimum of four Advanced Placement (AP) courses, with one each in English, math, science and social studies. That directive is reflected on the course list for the 2021 school year, which says "Schools must offer AP courses in endorsed areas." State law allows for International Baccalaureate (IB) courses to be offered instead of AP courses.⁸ Both AP and IB classes are weighted on a five point rather than a four point scale (A = 5 points toward grade point average).⁹

During the 2021 school year, AP or IB courses were taught in 236 – or 91% – of the state’s school districts and open enrollment charter school systems. Within those, 268 high schools and 12 junior highs feeding into high schools offered at least one AP course. Springdale offered the most AP courses (43), while 12 schools offered one AP course during the 2021 school year. Total enrollment in AP courses during the 2021 school year was just over 47,800, representing 28,024 unique students, meaning some students were enrolled in more than one AP or IB class.

⁸ A.C.A. § 6-16-806

⁹ DESE "Rules Governing Grading and Course Credit."



The 10 most popular AP courses statewide and their enrollments are listed in the following chart:

Course	2021 Statewide Average Enrollment
AP English Language and Composition	7,499
AP United States History	5,820
AP English Literature and Composition	5,274
AP World History	4,856
AP Biology	2,888
AP Psychology	2,770
AP Statistics	1,961
AP Calculus AB	1,907
AP Chemistry	1,574
AP Human Geography	1,500

Eleven open-enrollment charter schools had waivers from offering Advanced Placement courses during the 2021 school year.

CONCURRENT COURSES

Arkansas Code Annotated §6-16-1204 provides that schools may offer concurrent enrollment courses (in which students earn both high school credit and college-level credit) if they do so through an Arkansas institution of higher education. Districts may decide to offer these courses with a weighted grading scale (A=5 points).

Concurrent credit courses may be offered at reduced rates of tuition. In 2017, Act 1118 added that students qualifying for free or reduced-price lunches do not have to pay the costs of qualifying concurrent credit courses for up to six credit hours,¹⁰ and, in 2019, Act 456 created the Arkansas Concurrent Challenge Scholarship Program,¹¹ which allows any remaining funds after the distribution of Arkansas Academic Challenge Scholarships under A.C.A. § 6-85-201 et seq. and Arkansas Workforce Challenge Scholarships under A.C.A. § 6-85-301 et seq. to be used for \$125 scholarships per concurrent course for college credit up to a maximum \$500 per student. According to the Arkansas Department of Higher Education, 12,504 awards totaling \$1,242,511 were provided to 7,414 students in Fall 2020, and another 11,398 awards totaling \$1,194,624 were provided to 6,754 students in Spring 2021. All who applied received the scholarship.

River Valley Virtual Academy in the Van Buren School District was the only school with a waiver concerning concurrent credit courses in the 2021 school year.

Weighted and Concurrent Career Focus Courses

Act 632 of 2019 enabled DESE to work with the Division of Career and Technical Education to approve “a career and technical course for weighted credit if the course exceeds the curriculum standards for a nonweighted class and leads to an approved industry recognized certification.” These and concurrent career and technical courses are discussed in the Career and Technical Education report.

GIFTED AND TALENTED

While gifted and talented instruction is not funded directly through the matrix, state law¹² requires that districts spend state and local revenues on gifted and talented programs in an amount equal to 15% of the foundation funding amount multiplied by 5% of the school district’s prior year three-quarter average daily membership and “[o]nly upon gifted and talented programs in accordance with rules promulgated by the [S]tate [B]oard [of Education].”

In 2021, 40,214 students were identified by their schools as in need of gifted and talented services, according to DESE.¹³ These services may be provided through AP, IB and concurrent credit courses or through other programs not coded as classes. Schools also may offer courses coded specifically as Gifted and Talented seminars, and 8,567 individual students were enrolled in such courses at 188 different schools during the 2021 school year.

Forty-nine schools – all but eight being open-enrollment charter schools – operated with waivers from gifted and talented programs in 2021.

¹⁰ DESE’s “Rules Governing Grading and Course Credit.”

¹¹ A.C.A. § 6-85-401 et seq.

¹² A.C.A. § 6-20-2208(c)(6)

¹³ Email from Erin Franks and Krystal Nails dated April 15, 2022.

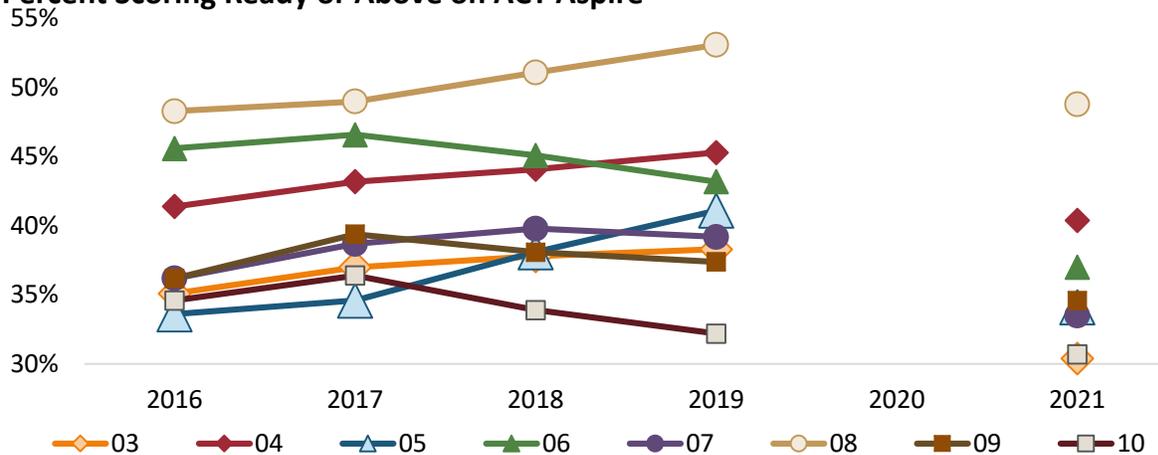
Reading Initiative for Student Excellence (R.I.S.E.)

Act 1063 of 2017 – also known as the Right to Read Act – created the Reading Initiative for Student Excellence program. This push resulted from the 2015 ACT Aspire and the 2015 ACT results. That year, fewer than half of Arkansas’s students in grades 3-10 scored Ready or Exceeding in reading on the ACT Aspire, and only 39% of Arkansas’s graduating seniors met reading readiness benchmarks on the ACT.¹⁴

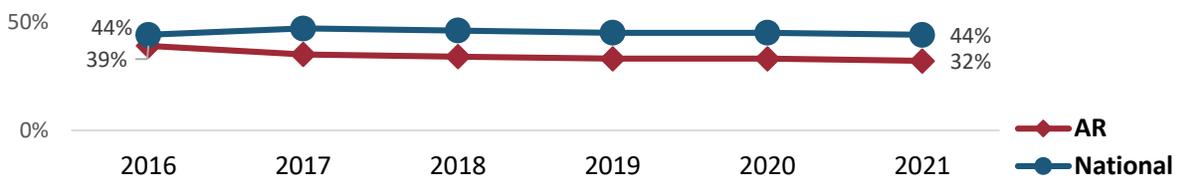
Act 1063 requires all K-6 teachers employed in a classroom teaching position that requires a license to teach elementary students and all K-12 special education teachers to demonstrate proficiency in the science of reading by the 2024 school year. All other teachers must show awareness in the science of reading. This effort is supported through annual professional development opportunities called R.I.S.E. Academies (as well as other trainings) and trains teachers to use research-based approaches for teaching reading. Additionally, the literacy plan in each public school's annual school-level improvement plan is to be based on the science of reading,¹⁵

An analysis of scores since 2015 show that from 2016 to 2019, the percentage scoring Ready or higher in reading on the ACT Aspire steadily increased for grades 3, 4, 5, and 8. Grades 6 and 7 showed slight dips from 2018 to 2019, and grades 9 and 10 started declining after 2017. No ACT Aspire tests were administered in the 2020 school year due to COVID-19, and scores overall declined in the 2021 year, largely attributed to learning loss associated with the COVID-19 situation. However, two grades – 5th and 8th – had slightly higher percentages scoring at the Ready or above level in 2021 than they did in 2016. In 2021, 32% of graduating seniors in Arkansas public schools scored ready on the reading portion of the ACT exam.

Percent Scoring Ready or Above on ACT Aspire



ACT Graduating Seniors % Reading Ready



¹⁴ Arkansas Department of Education Division of Learning Services Literacy Support Unit, “A New Chapter for Arkansas Students, 2018 Report.”

¹⁵ See Ark. Code Ann. § 6-15-2914(b)(1)(B).

Arkansas Computer Science Initiative

Act 187 of 2015 required each public high school and public charter high school to offer a course “of high quality” and that meets or exceeds the state board's curriculum standards in computer science. ADE has developed and adopted curriculum standards and courses for the following high school options worth one credit per course level (or year), with year three being designated an advanced course: Artificial Intelligence & Machine Learning, Computer Engineering, Cybersecurity, Data Science, Game Development and Design, Mobile Application Development, Networking, Programming, and Robotics. Additional courses include one credit in Computer Science Independent Study and one credit in Computer Science Internship. ADE also provides course codes for Advanced Placement and International Baccalaureate computer science courses. Computer science learning standards also are to be incorporated into the instruction at each grade level, and Middle School Introduction to Coding must be taught to all students at least once in grades 5-8.¹⁶

The introduction of computer science as a mandatory offering has garnered the state national recognition in the last few years by organizations such as Facebook, Microsoft, Code.org and the Computer Science Teachers of America. (Beginning with entering 9th grade class in the 2023 school year, public high school students must complete one unit of computer science to graduate.¹⁷)

Computer science courses are taught in traditional and charter high schools as classroom-based courses or remotely as digital-learning courses. According to the Arkansas public school computer network, about 12,500 unique students were enrolled in computer science courses in 288 schools in 227 districts and open-enrollment charter school systems¹⁸ during the 2021 school year. The courses with the highest average enrollments are listed in the table below:

Course Name	2021 Statewide Enrollment
Computer Science with Programming/ Coding Emphasis Level 1	5,198
Computer Science with Programming/ Coding Emphasis Level 2	4,566
Robotics Level 1	734
Computer Science with Programming/ Coding Emphasis Level 3	655
Computer Science with Programming/ Coding Emphasis Level 4	627
Robotics Level 2	611
Computer Science with Information Security Emphasis Level 1	597
Computer Science with Information Security Emphasis Level 2	541
Mobile Application Development Level 1	437
Mobile Application Development Level 2	361

No waivers from computer science course offerings were listed for 2021.

¹⁶ Email from Erin Franks, Chief Legislative Affairs Director, DESE, dated April 28, 2022.

¹⁷ Act 414 of 2021.

¹⁸ The school districts and charter schools with no computer science course enrollment in the Arkansas public school computer network for the 2021 school year were Alma, August, Capital City Lighthouse Academy, Charleston, Concord, Des Arc, East Poinsett County, Exalt Academy of Southwest Little Rock, Friendship Aspire Academy Little Rock, Friendship Aspire Academy Pine Bluff, Graduate4 Arkansas Charter, Hazen, Hope Academy of Northwest Arkansas, Imboden Charter, Magnet Cove, Mineral Springs, Mountain Pine, Mt. Vernon/Enola, Nevada, Osceola, Piggott, Pine Bluff Lighthouse Academy, Poyen, Responsive Ed Solutions Premier High School of Little Rock, Responsive Ed Solutions Premier High School of North Little Rock, Scholarmade Achievement Place of Arkansas, Shirley, Smackover-Norphlet, South Side (Van Buren County), Strong-Huttig, and Waldron.

Remote/Digital/Distance Learning

Distance learning was originally implemented in the state by Act 1083 of 1999. As later stated explicitly in Act 1192 of 2003, distance learning was intended to help schools deal with the shortage of qualified teachers and to increase access to a variety of courses beyond those required by the state's accreditation standards. During the 2013 legislative session, the General Assembly passed Act 1280, which requires all school districts to provide at least one digital learning course beginning in the 2014-15 school year.¹⁹ A.C.A. § 6-16-1406(d) also requires students, beginning with the ninth grade class of 2014-15, to take at least one digital learning course to graduate from high school.

When COVID-19 shut down schools in March 2020, schools and students suddenly had to rely on remote teaching and learning for school to continue. Because there had been little opportunity for planning this type of educational delivery on a statewide scale, results were mixed. In a survey administered by the BLR at the end of the 2020 school year, superintendents reported that teachers and students living in rural areas often were not able to connect to broadband from their homes. The cost of broadband and devices was also a factor for many families, superintendents said at the end of the 2020 school year, so that those who might have connectivity might not have it at a level that allowed streaming or downloading of lengthier lessons. Federal funds distributed during the 2021 school year helped improve this situation for schools, according to the BLR's adequacy survey of superintendents.²⁰

Arkansas's public schools reopened for the 2021 school year; however, many districts offered the option for remote or hybrid learning. Remote learning meant students participated only through digital learning, though that mode of learning could be changed during the school year. Hybrid learning could mean learning in the classroom for some days of the week and learning digitally for the others, but it could also mean that a school had to pivot to remote learning for a period of days because the level of infection in a school required the building to close.

Each student was recorded in Arkansas's public school computer network as using one of the following learning instructional options:

- Onsite/Traditional
- Virtual/Remote
- Hybrid/Blended
- N/A (No Show/No Activity)

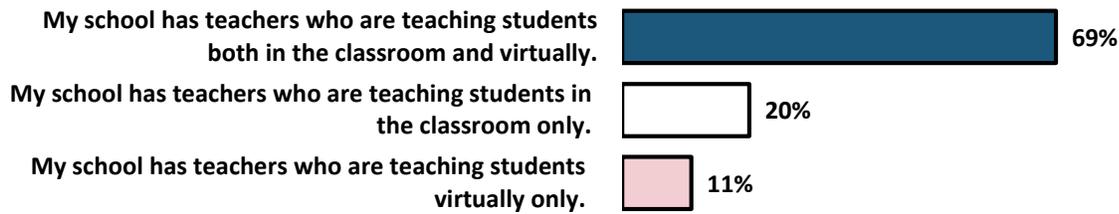
On average, 66% of students attended school in the classroom, 21% worked remotely, and 13% participated in a hybrid learning situation.

Principals were asked about learning options offered in response to the COVID-19 pandemic at their schools. Most – 89% – said they were offering a hybrid of in-person and distance learning. Most also reported that their teachers were instructing both ways.

¹⁹ State statute refers to both "distance learning" and "digital learning". For a number of years, distance learning typically referred to instruction delivered in one location and made available to classrooms across the state via compressed interactive video. As distance learning began to rely less on compressed video, the terminology shifted to "digital learning". State statute defines digital learning as "a digital technology or internet-based educational delivery model that does not rely exclusively on compressed interactive video" (§ 6-16-1403(a)(1)). ADE rules further specify that "digital learning may be a type of distance learning" (Rules Governing Distance and Digital Learning).

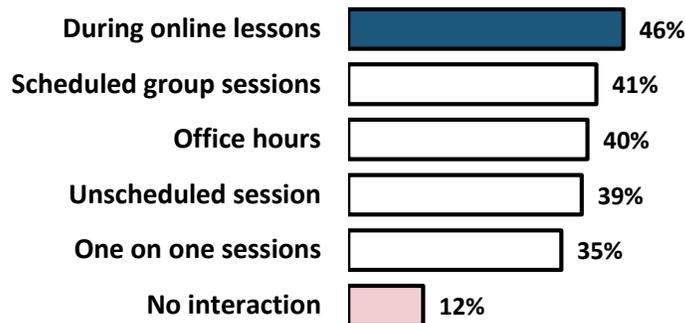
²⁰ 2022 Adequacy Study Superintendent Survey Responses, questions 51 and 52.

Principals: Teachers Teaching In Person, Virtually or Both



Eighty percent of the teachers responding to the survey taught both in-person and digitally; and 69% said they had the support and resources they needed to be effective teachers during the pandemic. Of those who taught virtually, teachers said most of their real-time interactions occurred with students during online lessons. Twelve percent reported having no interactions with these students.

Remote Teachers: When Student Real-Time Interactions Occur

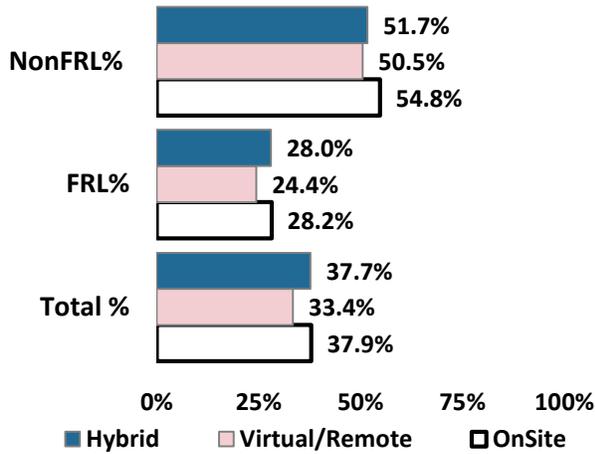


STUDENT PERFORMANCE

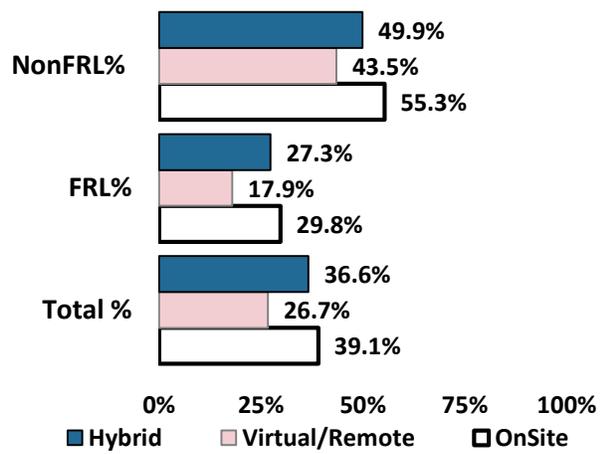
A vast majority of the teachers who taught virtually responded that they did not believe students learned as well virtually, with 7% of teachers who taught virtually stating that students learned just as well and no one responding that students learned better virtually.

According to an analysis of 2021 test score data from DESE, students who learned most of the school year through remote learning scored lower than those who learned in a hybrid environment. In-class learners scored the highest.

Reading Proficient Levels by Learning Instruction Option



Math Proficient Levels by Learning Instruction Option



NATIONAL RESEARCH

Because digital learning has become so necessary during the out-of-school learning period caused by the pandemic, it is helpful to look at research into the effectiveness of digital learning classes. Three recent research projects were examined by *Education Week*.²¹ While all three occurred before the pandemic, they all found that digital learning could be beneficial in allowing students access to topics they might not have in their own school buildings, but, overall, retention of learning from digital classes was less than it was for in-person classrooms. One of these studies, for instance, was one by the American Institutes for Research and the University of Chicago Consortium on School Research that randomly assigned a set of students in need of credit recovery in Algebra I to either an online or an in-person credit recovery class. The students in the online setting had less successful credit-recovery rates and lower test scores in Algebra I. They also rated their class as more difficult than did the students taking the course face-to-face. A separate study found that the negative results from digital learning were greater for lower performing students, while the differences were smaller for higher performing students.

Researchers during the pandemic noted that “while education gaps existed pre-pandemic, the situation worsened during the current global crisis as students, parents, and educators struggled to meet educational goals in the new instructional era (Cottingham et al., 2020; Engzell et al, 2020).”²² Cited reasons by various researchers were the lack of or limited access to online resources for many families of low socioeconomic status, lack of involvement or knowledge by some parents, lack of online teaching expertise and technology-related resources for many teachers, and varied delivery methods. For instance, communities and schools without adequate broadband or enough personal devices had to resort to “packaging hard copy instructional materials for their students/parents to pick up and drop off. This instructional delivery process approach added a lag time when packages were not picked up, completed, or promptly returned.”²³

²¹ Loeb, Susan. “How Effective is Online Learning? What the Research Does and Doesn’t Tell Us,” *Education Week*, April 1, 2020.

²² Ogoto, J.A., Simon, M., Morris, D., Akubo, M. “Examining K-12 Teachers’ Digital Competency and Technology Self-Efficacy During COVID-19 Pandemic,” *Journal of Higher Education Theory and Practice* Vol. 21 (11) 2021.

<https://doi.org/10.33423/jhetp.v21i11.4660>

²³ Ibid.

2021 Legislation

ACT 251 (SB124) requires **each local school district to establish procedures and monitoring processes to ensure that the content of each course offered by the school district is consistent with content standards and curriculum frameworks** approved by the State Board of Education. The act provides that if the Division of Elementary and Secondary Education determines that a school district has failed to align the content of each class and subject area to content standards and curriculum frameworks developed and approved by the state board, the division shall take enforcement actions as outlined in the Standards for Accreditation of Arkansas Public Schools and School Districts.

ACT 259 (HB1029) amends the **African-American history requirement** for public schools to include education regarding John W. Walker.

ACT 414 (SB107) creates the **Computer Science Education Advancement Act of 2021**, which requires students entering ninth grade in the 2022-2023 school year to have one (1) unit of credit in an approved computer science course before graduation.

ACT 489 (SB62) provides that by the beginning of the 2023-2024 school year, all teachers employed in a classroom teaching position that requires a license to teach elementary students in grades kindergarten through six (K-6) or a license to teach special education for students in grades kindergarten through twelve (K-12) shall demonstrate proficiency in knowledge and practices of **scientific reading instruction**. The act provides that a teacher who has not demonstrated proficiency by the 2023-2024 school year may be afforded an opportunity to demonstrate proficiency by being placed in an intensive support status for a period of time specified by the teacher's evaluator in the professional growth plan for the teacher. The act provides that all teachers who begin employment in the 2023-2024 school year and each following school year thereafter shall demonstrate proficiency or awareness in knowledge and practices of scientific reading instruction as is applicable to their teaching position.

ACT 536 (SB161) allows public schools to offer to students in grades five through twelve (5-12) a **hunting safety course** as part of the public school's physical education and health and safety curriculum.

ACT 544 (SB64) **repeals the law requiring the State Board of Education to define and publish academic standards and expected outcomes** for students in prekindergarten through grade twelve (preK-12), requires that the academic standards and expected outcomes be adopted by local school district boards of directors, and requires that the academic standards and expected outcomes be implemented by local school districts.

ACT 544 (SB64) repeals the law requiring that a **home schooling notice** provided to a superintendent by the parent of a child include a statement of plans to seek a driver's license during the current school year.

ACT 545 (SB235) amends the law concerning the **supervision and administration of technical and vocational education**. The act repeals the law concerning the Plumbing Program and the statute concerning grants for tech-prep education.

ACT 552 (SB389) requires public schools to make **certain information and materials available for inspection by parents and legal guardians of public school students** participating in certain courses or programs and requires public schools to provide prior written notification to parents and legal guardians of public school students participating in certain courses and programs that are not directly related to a requirement under the Arkansas academic standards.

ACT 606(SB349) specifies the methods permitted under the **science of reading** and provides consequences for public schools that implement a science of reading program prohibited under the act.

ACT 611(SB160) requires all public schools to provide **Holocaust education** beginning with the 2022-2023 school year.

ACT 644(SB451) requires students in grades one through six (1-6) who are enrolled in a public school or open-enrollment public charter school that is configured as an elementary school to participate in visual art and music class and amends **visual art and music requirements for students in grades five (5) and six (6)** who are enrolled in a public school that is not configured as an elementary school.

ACT 663(HB1451) allows a public school district or open-enrollment public charter school to adopt a **bilingual program or a dual-immersion program** approved by the Division of Elementary and Secondary Education.

ACT 684(HB1464) requires each public school district to develop and adopt policies, in consultation with parents and legal guardians, regarding the **rights of parents and legal guardians to inspect, upon request, any instructional materials**; a procedure for granting a parent or legal guardian reasonable access to instructional materials within a reasonable period of time; and the opportunity for parents and legal guardians to challenge or express concerns about the instructional materials and events and activities associated with classroom instruction.

ACT 730(HB1744) amends the passage rate required for the **United States citizenship civics** test to sixty percent (60%) of the test questions.

ACT 757(HB1794) requires the Division of Elementary and Secondary Education, in consultation with the Division of Higher Education, to establish and implement a program by which a public school student in grades nine through twelve (9-12) may enroll in undergraduate courses required to obtain a **diploma or certificate of completion as a licensed practical nurse** by the date on which the student graduates or within a reasonable frame of time after the student graduates. The act declares an emergency and is effective on and after April 19, 2021.

ACT 897(SB576) requires public schools and open-enrollment public charter schools to have a policy detailing how a record of **pupil attendance shall be kept for students who attend school via virtual or remote learning programs** if the attendance requirements are different from the standard attendance requirements.

ACT 912(SB564) allows the Department of Education to develop a **program to identify qualified tutors**, identify a curriculum to support children preparing to enter kindergarten through grade six (K-6) in math and reading, ensure training modules related to math and reading are provided to qualified tutors, ensure ongoing support to qualified tutors, and coordinate with public schools to ensure tutoring is offered at qualified tutoring sites or virtually. The act declares an emergency and is effective on and after April 26, 2021.

Appendix A – ADE 38 Required High School Courses



Arkansas Department of Elementary and Secondary Education Thirty-Eight Required High School Courses

English Language Arts: 6 credits

English 9 (410000) 1 credit *
English 10 (411000) 1 credit *

English Language Arts 2 credits from below:

English 11 (412000) 1 credit
English 12 (413000) 1 credit
English 11/12: Cross-Cultural Literature ½ credit
English 11/12: Comparative Literature ½ credit
English 11/12: US History Seminal Documents ½ credit
English 11/12: Film as Literature ½ credit
English 11/12: Public Relations, Sales, and Marketing ½ credit
English 11/12: Business and Professional Communication ½ credit
English 11/12: Mass Communications ½ credit
English 11/12: Reading and Writing STEM ½ credit
English 11/12: Entrepreneurship and Innovation ½ credit
English 11/12: Technical Reading and Writing for Trade & Industry ½ credit

Oral Communication ½ credit from below:

Oral Com: Personal Communication (414200) ½ credit
Oral Com: Professional Communication (414210) ½ credit

ADE Approved ELA 1 ½ credits from below:

Critical Reading I (419110)
Creative Writing (417010) ½ credit
Debate I (414050)
Dramatic Literature (416010)
ELA Drama (416000) ½ credit
Forensics I (414020)
Journalism I (415000)
Transitional Literacy Ready (496030)
Additional English 11/12 or Oral Com.
Approved AP* and IB offerings

Physical Education: 1 credit (or two ½ credits)

Health and Safety (480000): ½ credit

Foreign Language: 2 credits from same language

***Specific Required Course**

Computer Science: 1 credit

Sequential combination of
HS CS Level 1 and HS CS Level 2 courses

Mathematics: 6 credits

Algebra I (430000) 1 credit *
Geometry (431000) 1 credit *
Algebra II (432000) 1 credit *
Pre-Calculus (433000) 1 credit *

ADE Approved Math 2 credits from below:

Adv. Topics and Modeling in Math (439050)
Algebra III (439070)
Calculus (434010)
Linear Systems & Statistics (439090)
Quantitative Literacy (439120)
Math Ready (439110)
Technical Math for College and Careers (439130)
Approved AP* and IB offerings

Science: 5 credits

Physical Science Integrated (423000) 1 credit *
Biology Integrated (420000) 1 credit *
Chemistry Integrated (421000) 1 credit *

ADE Approved Science 2 credits from below:

Astronomy (425050)
Chemistry II (421010)
Earth Science (425020)
Environmental Science (424020)
Anatomy/Physiology (424030)
Physics (422000)
Approved AP* and IB offerings

Career Education: 9 credits

Program(s) of study representing three (3) of the following occupational areas:

- Agriculture Science and Technology
- Business and Marketing Technology
- Family and Consumer Sciences
- Trade and Industry
- Science, Technology, Engineering, and Mathematics

Social Studies: 4 credits

US History Since 1890 (470000) 1 credit *
World History Since 1450 (471000) 1 credit *
Civics (472000) ½ credit *
Economics and Personal Finance (474300) ½ credit *

ADE Approved Social Studies 1 credit from below:

Arkansas History (473000) ½ credit
African American History (474700) ½ credit
Psychology (474400) ½ credit
Sociology (474500) ½ credit
United States Government (474100) ½ credit
World Geography (474600)
Approved AP* and IB offerings

Fine Arts: 3½ credits

Visual Art (450) 1 credit
Visual Art I (450000)*

Vocal Music (452) 1 credit
Vocal Music I (452000)*

Instrumental Music 1 credit from below:

Band I (451000)
Jazz Band I (451200)
Orchestra I (451100)

Additional ADE Approved Fine Arts ½ credit

Any course within the approved discipline areas:
Vocal Music, Visual Art, Instrumental Music,
Theatre, or Dance
Approved AP and IB offerings

Schools must offer:

- 38 unique courses, even if a course falls into two categories
- Math and Literacy transitional courses
- AP courses in endorsed areas
- AR History required, if not taught in 7th or 8th grade
- Schools may submit a request for other courses to meet the 38 through the ADE Course Approval System (CAS)

1 Credit = full year course ½ credit = semester course

Revised 1-8-2020