High School
Graduation Requirements
Education Commission of the States www.ecs.org

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50-State Mathematics Requirements for the Standard High School Diploma

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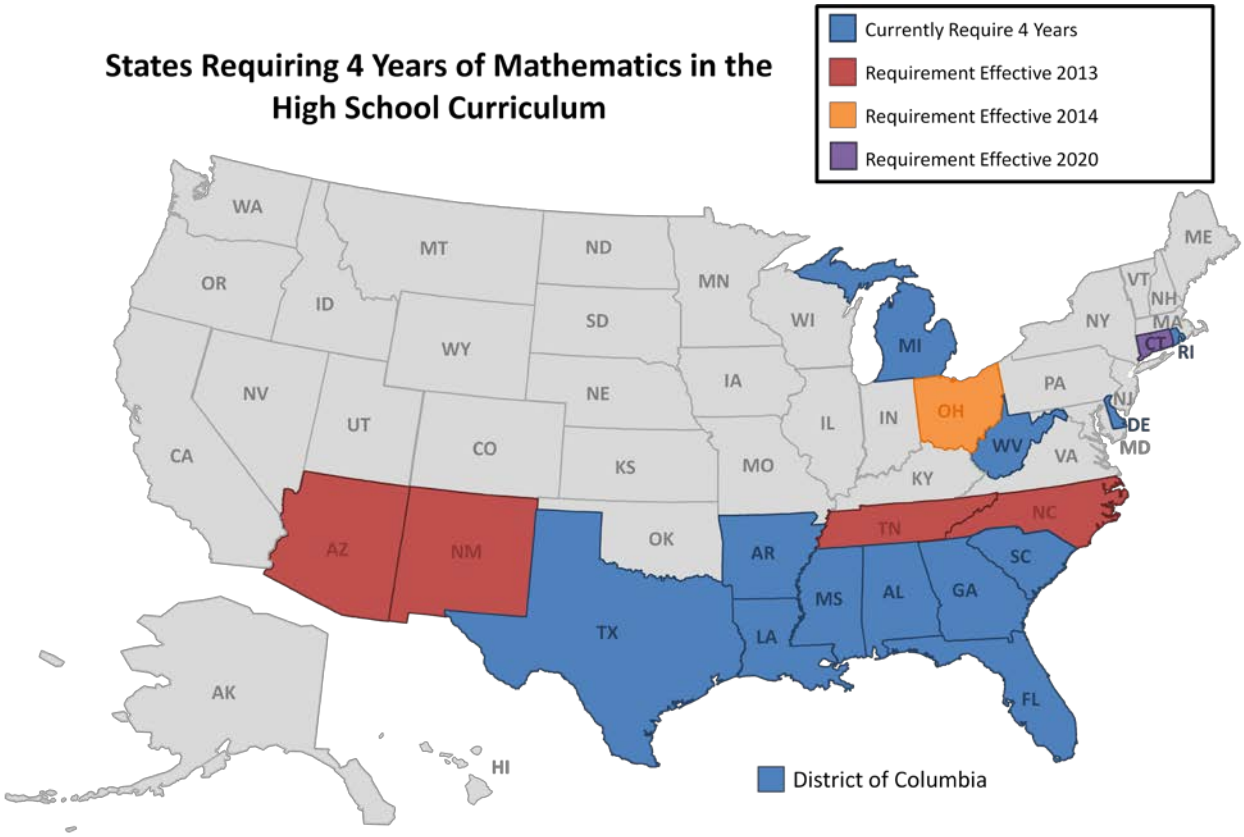
March 2012

This report identifies the number of Carnegie units or specific courses in mathematics that students must complete to earn the standard high school diploma in their state.

Two trends are clear: states are increasingly requiring students to complete four years of math in high school, and are beginning to require students to complete a math course each year of high school, to ensure students earning high school math credit before grade 9 are engaged in rigorous math content their final year of high school.

Require four Carnegie units in math in 2012	**12 states + D.C.**	
	Alabama	Michigan
	Arkansas	Mississippi
	Delaware	Rhode Island
	District of Columbia	South Carolina
	Florida	Texas
	Georgia	West Virginia
	Louisiana	
Require 4 Carnegie units in math for Class of 2013	***16 states + D.C.***	
	Arizona	
	New Mexico	
	North Carolina	
	Tennessee	
Require four Carnegie units in math for Class of 2014	***17 states + D.C.***	
	Ohio	
Require four Carnegie units in math for Class of 2020	***18 states + D.C.***	
	Connecticut	

Require a math course each year of high school, or during senior year	**At least three states**
	Delaware
	Kentucky
	Tennessee
Require a math course each year of high school, or during senior year for Class of 2016	***At least four states***
	Indiana



Notes:

1.) Four states (DE, IN, KY, TN) specify either that a math course must be completed each year of high school, or that a math course must be completed during the student's senior year. A fifth state (IN) will be effective for the class of 2016.

Note: This table does not include mathematics requirements for advanced diplomas or endorsements. Such requirements are available from the author upon request.

State	Units	Required courses, if specified	Citation
AL	4	One unit each Algebra I, geometry	ALA. ADMIN. CODE R. 290-3-1-.02
	4	Class of 2013: one unit each Algebra I, Geometry, Algebra II with Trigonometry, plus one add'l math credit	
AK	2		ALASKA ADMIN. CODE tit. 4, § 06.075(b)
AZ	3	Course content for at least two courses must include "Number Sense and Operations; Data Analysis, Probability and Discrete Mathematics; Patterns, Algebra and Functions; Geometry and Measurement; and Structure and Logic." Content for third course must include "significant mathematics content."	ARIZ. ADMIN. CODE R7-2-302.01(1)(c), R7-2-302.02(1)(c), R7-2-302.03
	4	Class of 2013: In addition to two courses above, incl. one Algebra II and one math unit that includes "significant mathematics content as determined by the" local board or charter school.	
AR	4	Algebra I, Geometry, Algebra II and unit chosen from "Transitions to College Math, Pre-Calculus, Calculus, Trigonometry, Statistics, Computer Math, Algebra III, or an Advanced Placement math," Students must take a math course in grade 11 or 12.	Ark. Admin. Code 005.15.2-14.0
CA	2		CAL. EDUC. CODE §

State	Units	Required courses, if specified	Citation
			51225.3(a)(1)(B)
CO	n/a[1]		
CT	3		CONN. GEN. STAT. ANN. § 10-221a
	4	Class of 2020: Incl. Algebra I, Geometry, Algebra II or Probability and Statistics	
DE	4	The equivalent of Algebra I, Geometry, Algebra II. Must complete a math course during the senior year. Class of 2016: Must complete Algebra II or Integrated Mathematics III course. Must complete a math course during the senior year.	14 Del. Admin. Code 505
DC	4	Algebra I, Geometry, Algebra II. (Algebra I no later than 9th grade.)	D.C. MUN. REGS. tit. 5, § 2203.2
FL	4[2]	Algebra I, a series of courses equivalent to Algebra I, or a higher-level math course Class of 2014: Also Geometry or equivalent series of courses Class of 2016: Algebra II or equivalent series of courses	FLA. STAT. ANN. § 1003.428((2)(a)(2); 1003.429
GA	4	Algebra I or equivalent, Algebra II or equivalent, Algebra III or equivalent. Additional math credit(s) must be chosen from specified courses.	GA. COMP. R. & REGS. r. 160-4-2-.48(3)(b)(5)(ii)(II)
HI	3	No more than one math unit may be below Algebra I[3]	Board Policy 4540 (Class of 2016 here)
	3	Class of 2016: Algebra I, Geometry, or newly developed Common Core State Standards proficiency-based equivalents	
ID	2		IDAPA 08.02.03.105.01(d)
	3	Class of 2013: One Algebra I, one Geometry, and one of student's choice. One unit must be taken in last year of HS.	
IL	3	One Algebra I and one unit that "must include geometry content"	
IN	3	Either Algebra I, Geometry, Algebra II sequence or Integrated Mathematics I, II, III. Students "strongly recommended" to complete math unit during last year of high school. Students must earn one unit of either math or physics during last two years of HS. Class of 2016: Students must complete three units after entering high school, and be enrolled in math or quantitative reasoning course each year of high school.	IND. ADMIN. CODE tit. 511, r. 6-7.1-4 and -5; IND. CODE ANN. § 20-32-4-7 through -10
IA	3		IOWA CODE § 256.7(26)(a);
KS	3	"including algebraic and geometric concepts"	KAN. ADMIN. REGS. 91-31-21(a)(4)

[1] State constitution gives local boards authority over K-12 curriculum, including course requirements for high school graduation.

[2] State also makes available 3-year diploma option that requires only 3 units of math. However, eff. Class of 2014, 4 units math will be required, and Algebra I, geometry and Algebra II requirements will be implemented in same years as for traditional diploma.

[3] http://graduation.k12.hi.us/pdfs/Class_of_2010,2011,2012_WEB.pdf

State	Units	Required courses, if specified	Citation
KY	3	Algebra I, Geometry, Algebra II. "An integrated, applied, interdisciplinary, occupational or technical course that prepares a student for a career path based on the student's individual learning plan may be substituted for a traditional Algebra I, Geometry or Algebra II course on an individual student basis if the course meets the content standards in the Kentucky core academic standards." Math must be taken each year of HS. Pre-algebra may not count towards four but may be counted as elective.	704 KY. ADMIN. REGS 3:305, Section 2
LA	4	One unit each Algebra I (Applied Algebra I, or Algebra I-Pt. 2), geometry or applied geometry, Algebra II and fourth unit chosen from state-determined list.	La. Admin Code. tit. 28, pt. CXV, §§ 2317, 2318 and 2319, pt. XXXIX, § 503
ME	2	"It is highly recommended that all students have exposure to basic algebraic concepts and skills."	ME. REV. STAT. ANN. titl. 20-A, § 4722(2); CODE ME. R. Ch. 127, § 7.02(A)(1)(d)
MD	3	Includes one unit "with instruction in algebra aligned with the Maryland High School Assessment for algebra/data analysis or one or more credits in subsequent mathematics courses for which Algebra I is a prerequisite, and one with instruction in geometry aligned with the content standards for geometry"	MD. REGS. CODE tit. 13A, § 03.02.04((A)(3)
MA	n/a[4]		
MI	4	Includes Algebra I, Geometry, Algebra II (or a three-unit integrated equivalent), "and an additional mathematics credit, such as trigonometry, statistics, precalculus, calculus, applied math, accounting, business math, a retake of algebra II, a course in financial literacy as described in section 1165. A pupil may complete algebra II over two years with two credits awarded or over 1.5 years with 1.5 credits awarded ... A pupil also may partially or fully fulfill the algebra II requirement by completing a department-approved formal career and technical education program or curriculum that has appropriate embedded mathematics content, such as a program or curriculum in electronics, machining, construction, welding, engineering, or renewable energy."	MICH. COMP. LAWS ANN. § 1278a(1)(a)(i), 1278b(5)
MN	3	"encompassing at least algebra, geometry, statistics, and probability sufficient to satisfy the academic standard" Class of 2015: Students must complete Algebra I by end of 8th grade, and complete Algebra II or equivalent.	MINN. STAT. ANN. § 120B.023, 120B.024(a)(2)
MS	4	Two of the four units must be beyond Algebra I (list of such courses in regs)	MISS. ADMIN. CODE 7-2-1 Appendix A, 7-1-52 Appendix A; MISS. CODE ANN. § 37-16-17(1) and (2)(e)(ii)
MO	3		MO. CODE REGS. ANN. tit. 5, § 20-100.190(1)
MT	2		
NE	n/a 3	For Classes of 2012 through 2014, graduation requirements set by local districts Class of 2015: Three units, "with course content that includes algebraic, geometric, data analysis, and probability concepts."	Neb. Admin. R. & Regs. Tit. 92, Ch. 10, § 003.05A2
NV	3		NEV. ADMIN. CODE ch.

[4] Most course requirements for high school graduation set at district level.

State	Units	Required courses, if specified	Citation
			389, § 664(1)
NH	3	Includes "algebra credit that can be earned through a sequential, integrated or applied program"	N.H. CODE ADMIN. R. ANN. Ed. 306.27 (Table 306-2)
NJ	3	Includes Algebra I. Districts must encourage students who have met math requirements to complete a unit of math each year of high school, "aimed at preparation for entrance into post-secondary programs or 21st century careers" Class of 2014: Includes geometry or equivalent Class of 2016: Includes a third year of math "that builds on the concepts and skills of algebra and geometry and that prepares students for college and 21st century careers"	N.J. ADMIN. CODE TIT. 6A, § 8-5.1(a)(1)(ii), (b)(1)
NM	3 4	Includes equivalent of Algebra I or higher Class of 2013: Includes the equivalent (or higher) of Algebra II	N.M. STAT. ANN. § 22-13-1.1(F)(2), (I)(4)
NY	3	Students must complete a course/Regents exam in either Integrated Algebra, Geometry, or Algebra 2/Trigonometry	N.Y. COMP. CODES R. & REGS. tit. 8, § 100.5; Regents Diploma Requirements for Mathematics
NC	3 or 4 4	Students choose between College/University Preparatory Course of Study and Technical Preparation Course of Study. *College/University Prep*: Four units. Either Algebra I, Geometry, Algebra II and a higher math course for which Algebra II is a prerequisite, or Integrated Mathematics I, II, III and one course beyond Integrated Mathematics III *College Technical Prep:* Three units. Either (a) Algebra I, Geometry, Algebra II; (b) Algebra I, Technical Mathematics I and II; (c) Integrated Mathematics I, II, III Class of 2013: *Future-Ready Core Course of Study* is default curriculum. Four units, incl. either Algebra I, Geometry, Algebra II, or Integrated Mathematics I, II, III. In either case, fourth unit must be "aligned with the student's post high school plans."	N.C. ADMIN. CODE tit. 16, r. 6D.0503
ND	3		N.D. CENTURY CODE § 15.1-21-02.2 and -02.3
OH	3 4	 Class of 2014: Includes one unit Algebra II or equivalent	OHIO REV. CODE ANN. § 3313.603
OK	3	"limited to Algebra I, Algebra II, Geometry, Trigonometry, Math Analysis, Calculus, Advanced Placement Statistics, or any mathematics course with content and/or rigor above Algebra I and approved for college admission requirements"	OKLA. STAT. ANN. tit. 70, § 11-103.6
OR	3	Class of 2014: 3 units Algebra I and above	OR. REV. STAT. § 329.451
PA	n/a[5]	Class of 2015, students will need to demonstrate proficiency in Algebra I, either via completion of an Algebra I course in which the Keystone Exam serves as 1/3	22 PA. CODE § 4.24

[5] Course requirements for high school graduation set by local districts

State	Units	Required courses, if specified	Citation
		of the final course grade, or a local equivalent exam, or AP or IB.	
RI	4	Fourth year may be a mathematics-related course	L-6-3.1
SC	4		43 S.C. CODE ANN. REGS 259(I)((A)(1)
SD	3	Includes one unit each Algebra I, Geometry, Algebra II	S.D. ADMIN. R. 24:43:11:01 and :02(3)
TN	3	Must include one of the following: Geometry, Technical Geometry, Algebra II or Integrated Mathematics II.	Tenn. Comp. R. & Regs. 0520-1-3-.06
	4	Class of 2013: Algebra I, Geometry, Algebra II (or the equivalents) and an additional course beyond Algebra I. Students must be enrolled in a math class each year	
TX	4	Algebra I, Geometry, Algebra II; fourth credit chosen from state-determined list	19 TEX. ADMIN. CODE § 74.61(c), 74.62(b)(2), 74.63(b)(2)
UT	3	Algebra I, Geometry, Algebra II. If credit for any of these courses is earned before grade 9, student must still complete three units of math that meet specified criteria.	UTAH ADMIN. CODE R277-700-6(C)(2)
VT	3		VT. CODE R. 7-1-2:2120.8.7(a)(2)(C)
VA	3	Courses must be at or above the level of algebra, including two courses chosen from "Algebra I, Geometry, Algebra II or other mathematics courses above the level of algebra and geometry." Class of 2015: Must include at least two courses chosen from Algebra I, Geometry, Algebra Functions and Data Analysis, Algebra II, or other mathematics courses above the level of Algebra II.	8 VA. ADMIN. CODE § 20-131-50(B)
WA	2	Must "at minimum align with mathematics grade level expectations for 9th and 10th grade, plus content that is determined by the district."	WASH. ADMIN. CODE § 180-51-061(1), -066, -067
	3	Class of 2013: Three units must "align with the high school mathematics standards as developed and revised by the office of superintendent of public instruction" and include Algebra I, geometry, Algebra II or Integrated Mathematics I, II, III. Also specifies three units of high school course-taking for student who earned Algebra I or Integrated Mathematics I or Geometry or Integrated Mathematics II credit before grade 9.	
WV	4	State offers "Professional Pathway" and "Skilled Pathway" curriculum options. "It is the intent that students in the professional pathway will take mathematics annually, but must take at least three mathematics classes in grades 9-12."	W. VA. CODE ST. R. § 126-42-5
WI	2		WIS. STAT. § 118.30(1)(a)(1)
WY	3		W.S.1977 § 21-2-304 (a)(iii)(B)

"Lower-level option available" refers to students in general education programs. States typically specify that for a student with a disability, the IEP team must determine what modifications, if any, to the curriculum are necessary to fulfill the graduation requirements.

State	Lower-level option available
AL	Class of 2013: "Beginning at the end of Grade 8, the choice to opt out [of Advanced Academic Endorsement] can be made at the end of any semester in any grade as long as the student and his or her parent(s) agree. Students who opt out of FIRST CHOICE may pursue an Alabama High School Diploma with a Career and Technical Endorsement or Advanced Career and Technical Endorsement, or the Alabama High School Diploma."[1] Alabama High School Diploma: Same as pre-2013 Advanced Career and Technical Endorsement: Four units, incl. one unit each Algebra I, Geometry, Algebra II and math elective (may be embedded/substituted) Career and Technical Endorsement: Four units, incl. one unit each Algebra 1, Geometry, 2 math electives (1 may be embedded/substituted)
AZ	Effective Class of 2013: "Personal curriculum" is available for student who has successfully completed two credits specified for Class of 2012 but whose "development team" (student, parent or guardian, and either school counselor, principal or designee, and other members as principal deems appropriate) determines the student demonstrates a need to modify the Algebra II or equivalent requirement. Personal curriculum may modify only Algebra II requirement. Student may substitute Algebra II for at least one math unit that includes "significant mathematics content as determined by the" local board or charter school, and must complete a math course the student's senior year. Further details, procedures in ARIZ. ADMIN. CODE R7-2-302.03
AR	Four units, incl. one unit Algebra or equivalent and one unit Geometry or equivalent. "All math units must build on the base of algebra and geometry knowledge and skills." Parent or guardian may waive student participation from more advanced math requirements.
CT	Effective Class of 2020: Districts must provide students "alternative means … to complete high school graduation requirements … if such student is unable to satisfactorily complete any of the required courses" but statute does not specify alternative curriculum.
IN	Upon parental request, student may opt into "general curriculum" option. This curriculum includes two units math, which must be earned after the student enters HS. Must include 1 unit Algebra I or Integrated Mathematics I unless completed before HS entry. One unit must be "from the mathematics area of study"; other unit may be from business technology, family and consumer sciences, technology education, or career-technical course "having predominately mathematics content."
LA	After a student has been enrolled at least two years in high school, the student and student's parent or guardian may request the student be exempted from the Louisiana Core 4 default curriculum. Multiple alternatives: Louisiana Basic Core: Four units math, including one unit Algebra I (or Applied Algebra I, or two-unit Algebra I-Pt. 1 and Algebra I-Pt. 2 sequence), Geometry or Applied Geometry and two units chosen from state-determined list. Career diploma: Four units, including one unit Algebra I or Applied Algebra I (or two-unit Algebra I-Pt. 1 and Algebra I-Pt. 2 sequence), and units chosen from: (a) Geometry or Applied Geometry; (b) Technical Math; (c) Medical Math; (d) Applications in Statistics and Probability; (e) Financial Math; (f) Math Essentials; (g) Algebra II; (h) Advanced Math–Pre-Calculus; (i) Discrete Mathematics; or (j) course(s) developed by the LEA and approved by BESE. Prior to choosing this option, student must have written parent or guardian permission after consultation with school guidance counselor or administrator.
MI	A "personal curriculum" may be developed if the student, parent or guardian, subject area teacher in area in which student is seeking exemption (and/or other appropriate school staff member) agree this is the best option. Student with a personal curriculum in math must still complete at least 3½ of math units required in general curriculum. Student must still complete "Algebra I and geometry, and successfully … at least one mathematics course during his or her final year of high school. The algebra II credit required under that section may be modified as part of a

State	Lower-level option available
	personal curriculum … if the pupil meets one or more of the following: (i) Successfully completes the same content as one semester of algebra II, as determined by the department. (ii) Elects to complete the same content as Algebra II over two years, with a credit awarded for each of those two years, and successfully completes that content. (iii) Enrolls in a formal career and technical education program or curriculum and in that program or curriculum successfully completes the same content as one semester of Algebra II, as determined by the department. (iv) Successfully completes one semester of statistics or functions and data analysis."
MS	Career diploma: Intended "for students not wishing to pursue a baccalaureate degree." At least three math units, including Algebra I.
NM	Class of 2013: Parent may submit "written, signed permission for student to complete a lesser mathematics unit" in lieu of Algebra II.
NC	Career Preparation Course of Study (Class of 2012 last class for which this option is available). Three units, including Algebra I. "This requirement may be met with Integrated Mathematics I and II when accompanied with the Algebra I end-of-course (EOC)." Class of 2013: "In the rare instance a principal exempts a student from the Future-Ready Core mathematics sequence, except as limited by N.C.G.S. §115C-81(b), the student will be required to pass: (i) Algebra I and Geometry plus either Alternative Mathematics I and Alternative Mathematics II or two application-based mathematics courses as determined by the LEA or (ii) Algebra I and Algebra II plus either Alternative Mathematics I and Alternative Mathematics II or two application-based mathematics courses as determined by the LEA or (iii) Integrated Mathematics I and Integrated Mathematics II plus either Alternative Mathematics I and Alternative Mathematics II or two other application-based mathematics courses as determined by the LEA."
ND	"If after completing at least two years of high school a student has failed to pass at least one-half unit from three" of seven areas of the curriculum or has a grade point average at or below the 25th percentile of other students in the district who are enrolled in the same grade, the student may request that the student's career advisor, guidance counselor or principal meet with the student and the student's parent to determine if the student should be permitted to pursue an optional high school curriculum, in place of the" standard curriculum. If the parent gives written consent, the student must complete two units of math.
OH	A student entering 9th grade in 2010-11 through 2013-14 school years may opt into a less rigorous curriculum after the student has attended high school for at least two years. Legislation describes process. Such student would be required to complete pre-Class of 2014 graduation requirements.
OK	With written parental/guardian permission, a student may alternatively complete three units or sets of competencies including Algebra I, and two units from specified set.
OR	Statute allows for awarding of "modified diploma … to students who have demonstrated the inability to meet the full set of academic content standards for a high school diploma with reasonable modifications and accommodations. To be eligible for a modified diploma, a student must: (a) Satisfy the requirements for a modified diploma established by the State Board of Education; and (b) Have a documented history of an inability to maintain grade level achievement due to significant learning and instructional barriers or have a documented history of a medical condition that creates a barrier to achievement." Statute also provides for "extended diploma."
PA	The secretary of education may grant waivers "on a case-by-case basis for good cause. Waivers will be based upon receipt of a written request from the chief school administrator. Waivers may be granted to accommodate students who experience extenuating circumstances (including serious illness, death in immediate family, family emergency, frequent transfers in schools, or transfer from an out-of-State school in 12th grade)."
SD	In addition to excusals permitted for limited English proficient students, "A student may be excused from taking the required units of Algebra II, geometry, chemistry, or physics to align with a student's personal learning plan if the student's parent or legal guardian and school counselor or administrator agree and the excuse is documented. A student may be excused from Algebra II or geometry but not from both requirements. The student must still

State	Lower-level option available
	complete three units of mathematics and three units of laboratory science."
TX	Students may opt into the "Minimum High School Program" if the student is at least 16; has completed two credits for graduation in each of the subjects of English language arts, math, science and social studies; or "has failed to be promoted to Grade 10 one or more times as determined by the school district[.]" Minimum program includes three math units, incl. Algebra I, Geometry, and third unit chosen from state-determined list.
UT	"Students may opt out of Algebra 2 with written parent/legal guardian request. If an opt out is requested, the third math credit shall come from the advanced and applied courses on the Board-approved mathematics list."
WA	Effective Class of 2013: Students may pursue third unit of math other than Algebra II or Integrated Mathematics III if specified procedure is followed.

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[1] Alabama State Department of Education, *First Choice Brochure*, (2009), http://www.alsde.edu/general/Firstchoicebrochure_2009.pdf, (accessed March 8, 2012).