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**K - 12**  
**Subcommittee**  
**Thursday, February 7, 2013**  
**9:00 AM – 11:00 AM**  
**17 HOB**

**Meeting Packet**

**Will Weatherford**  
Speaker

**Janet H. Adkins**  
Chair



## **AGENDA**

**K-12 Subcommittee  
Thursday, February 7, 2013  
9:00 a.m. – 11:00 a.m.  
17 HOB**

- I. Call to Order/Roll Call
- II. Opening Remarks
- III. Workshop on high school graduation requirements
- IV. Closing Remarks and Adjournment

**Traditional 24-credit  
Graduation Requirements**

## Traditional 24-credit Graduation Requirements (s. 1003.428, F.S.)

Subject	For students entering grade 9 in:				
	2007-2008 & subsequent school years	2010-2011	2011-2012	2012-2013	2013-2014
English	4 – major concentration in composition, reading for information, and literature	Same	Same	Same	Same
Mathematics	4 – including 1 credit of Algebra I or equivalent; Districts encouraged to increase enrollment in Geometry & Algebra II	4 - including Algebra I (30% EOC) & <u>Geometry</u>	4 - including Algebra I (MP EOC) & Geometry (30% EOC)	4 - including Algebra I (MP EOC), Geometry (MP EOC) & <u>Algebra II</u>	Same
Science	3 – 2 credits must have a laboratory component	Same	3 - including <u>Biology I (30% EOC)</u>	3 - including Biology I (MP EOC)	3 - including Biology I (MP EOC), <u>chemistry or physics, &amp; equally rigorous course</u>
Social Sciences	3 – including 1 credit in U.S. History, 1 credit in World History, 0.5 credits in Economics, and 0.5 credits in American Government	Same	Same	3 – including <u>U.S. History (30% EOC)</u>	Same
Arts	1 Fine or Performing Arts (may include Speech & Debate)	Same	Same	Same	Same
Physical Education	1 – including integration of health	Same	Same	Same	Same
Electives	8 – credits in Majors, Minors, or Electives (4 credits in Major and 4 credits in Electives – 2nd Major, Minor, Electives, or Intensive Reading or Math Intervention courses)	8 - Electives, including intensive reading and mathematics courses ( <u>No Majors/Minors</u> )	Same	Same	Same

**Underlining indicates changed requirements for students entering grade 9 in specified school years**

30% EOC: Performance on the statewide, standardized end-of-course assessment constitutes 30% of student's final grade.

MP EOC: Student must pass the statewide, standardized end-of-course assessment to receive course credit.



# Results of Statewide Assessments Required for High School Graduation

	Grade 10 FCAT 2.0 Reading		Algebra I EOC		Geometry EOC	Biology 1 EOC
	2010-11 N = 185,959	2011-12 N = 184,497	2010-11 N = 210,531	2011-12 N = 203,430	2011-12 N = 188,714	2011-12 N = 190,982
Level 1	19%	20%	18%	16%	15%	14%
Level 2	30%	30%	28%	26%	30%	27%
Level 3	22%	22%	38%	37%	30%	37%
Level 4	20%	19%	10%	11%	16%	11%
Level 5	10%	10%	7%	10%	10%	11%
<b>&gt;= Level 3</b>	<b>52%</b>	<b>50%</b>	<b>55%</b>	<b>58%</b>	<b>55%</b>	<b>59%</b>

## Other Assessments

U.S. History EOC (30% of Course Grade) – Baseline administration in 2012-13; Performance level standards set in fall 2013.  
Civics EOC (Must Pass – Middle School) – Baseline administration in 2013-14; Performance level standards set in fall 2014.

## Notes

Baseline administration results are *italicized*. These data represent converted scores applying performance level standards adopted in the fall following the baseline administration of the test.

Data provided for first-time test takers.

# High School Graduation Requirements

Year Entering 9 <sup>th</sup> Grade	Assessment(s) that Students Must Pass in Order to Graduate
2010-11 (11 <sup>th</sup> Graders This Year)	Grade 10 FCAT 2.0 Reading
2011-12 (10 <sup>th</sup> Graders This Year)	Grade 10 FCAT 2.0 Reading Algebra I EOC Assessment
2012-13 (9 <sup>th</sup> Graders This Year)	Grade 10 FCAT 2.0 Reading Algebra I EOC Assessment Geometry EOC Assessment Biology 1 EOC Assessment

## Retake Opportunities

- Students can retake Grade 10 FCAT 2.0 Reading each time the test is administered until achieving a passing score
  - Students currently have up to **five** opportunities to pass Grade 10 FCAT 2.0 Reading before their scheduled graduation
- The number of opportunities to retake EOCs depends on the grade in which the student first takes the exam
  - EOCs are currently administered three times a year (summer, fall, and spring)
  - For example, if a student takes the Algebra I EOC for the first time in the spring of her 9<sup>th</sup> grade year, she has **nine** opportunities to pass the EOC before her scheduled graduation (ten opportunities if the summer following her 12<sup>th</sup> grade year is included)

On December 19, 2011, the State Board of Education established new Achievement Level standards for FCAT 2.0 Reading. Spring 2012 is the first time results are being reported according to these new standards. Because the FCAT 2.0 is based on more demanding content standards and the achievement standards are more rigorous, scores may appear lower on the new scale than on the previous scale for certain grades and subjects.

**2012 FLORIDA COMPREHENSIVE ASSESSMENT TEST® 2.0 (FCAT 2.0)**  
**NEXT GENERATION SUNSHINE STATE STANDARDS**  
**State Report of District Results**  
**Grade 10**  
**READING**

Grade	District Number	District Name	Total Test Scores								Mean Points Earned By Content Area				
			Number of Students	Mean Developmental Scale Score	Percentage Passing (% 245 or above)	% in each Achievement Level					Percentage in Achievement Levels 3 and Above	Vocabulary	Reading Application	Literacy Analysis: Fiction and Nonfiction	Informational Text and Research Process
						1	2	3	4	5					
10		<b>Number of Points Possible</b>										10	13	9	13
10	00	STATEWIDE TOTALS	184,403	244	50	20	30	22	19	10	50	7	8	6	8
10	01	ALACHUA	1,832	248	55	19	25	18	21	16	55	7	8	6	8
10	02	BAKER	313	241	43	23	35	20	19	4	43	7	7	5	7
10	03	BAY	1,684	247	55	16	29	23	21	12	55	7	8	6	8
10	04	BRADFORD	183	239	37	28	35	17	13	6	37	6	7	5	7
10	05	BREVARD	4,933	251	64	10	26	25	25	14	64	8	8	6	9
10	06	BROWARD	18,168	244	49	20	31	21	19	9	49	7	8	6	8
10	07	CALHOUN	123	248	63	14	23	28	24	12	63	7	8	6	8
10	08	CHARLOTTE	1,380	246	56	16	29	26	21	9	56	7	8	6	8
10	09	CITRUS	1,138	244	49	19	31	21	18	11	49	7	8	6	8
10	10	CLAY	2,751	247	57	14	29	26	21	10	57	7	8	6	8
10	11	COLLIER	3,042	244	50	21	29	20	21	9	50	7	8	6	8
10	12	COLUMBIA	577	242	44	22	34	20	17	7	44	7	8	5	8
10	13	MIAMI DADE	24,991	242	46	23	30	21	17	8	46	6	7	6	8
10	14	DESOTO	262	235	31	34	35	18	11	2	31	6	7	5	7
10	15	DIXIE	125	245	50	26	25	18	21	11	50	7	8	5	8
10	16	DUVAL	7,990	242	45	23	32	20	16	9	45	7	7	6	8
10	17	ESCAMBIA	2,559	243	49	21	31	22	19	8	49	7	8	6	8
10	18	FLAGLER	949	244	50	17	33	23	21	6	50	7	8	6	8
10	19	FRANKLIN	73	238	38	32	30	19	12	7	38	6	7	5	7
10	20	GADSDEN	330	231	22	39	38	15	6	1	22	5	6	4	7
10	21	GILCHRIST	186	248	61	12	27	24	28	9	61	7	8	6	8
10	22	GLADES	60	237	37	30	33	18	12	7	37	6	7	5	7
10	23	GULF	125	243	47	18	35	22	17	8	47	7	8	5	8
10	24	HAMILTON	77	235	29	31	40	13	10	5	29	6	7	4	7
10	25	HARDEE	338	241	40	22	38	20	12	8	40	6	7	5	8
10	26	HENDRY	437	235	31	32	38	18	10	3	31	6	7	5	7
10	27	HERNANDO	1,753	244	49	19	32	24	18	7	49	7	8	6	8
10	28	HIGHLANDS	749	241	44	22	34	21	16	7	44	7	8	5	8
10	29	HILLSBOROUGH	12,973	244	51	20	29	22	19	10	51	7	8	6	8
10	30	HOLMES	205	241	45	24	31	23	13	9	45	7	8	5	7
10	31	INDIAN RIVER	1,263	247	56	15	29	24	19	13	56	7	8	6	8
10	32	JACKSON	443	245	52	16	32	26	18	8	52	7	8	6	8
10	33	JEFFERSON	49	238	41	31	29	35	4	2	41	6	7	5	7
10	34	LAFAYETTE	74	242	51	22	27	28	18	5	51	7	7	6	7
10	35	LAKE	2,810	241	45	23	32	21	16	7	45	7	7	5	8
10	36	LEE	5,615	243	49	20	31	23	17	8	49	7	8	6	8
10	37	LEON	2,032	250	59	15	26	20	24	15	59	7	8	6	9
10	38	LEVY	365	241	42	21	37	23	14	5	42	7	7	5	7
10	39	LIBERTY	76	246	54	8	38	30	18	5	54	7	8	6	8
10	40	MADISON	158	238	37	27	36	20	13	4	37	6	7	5	7
10	41	MANATEE	2,832	244	50	20	30	23	19	8	50	7	8	6	8
10	42	MARION	3,006	242	44	23	33	21	17	7	44	7	7	6	8
10	43	MARTIN	1,420	252	65	11	24	22	27	16	65	7	9	6	9

Note: \* No data are reported when fewer than ten students tested or if any Achievement Level percentage equals 100. Percentages may not add to 100 due to rounding.  
 05/18/2012 Florida Department of Education

On December 19, 2011, the State Board of Education established new Achievement Level standards for FCAT 2.0 Reading. Spring 2012 is the first time results are being reported according to these new standards. Because the FCAT 2.0 is based on more demanding content standards and the achievement standards are more rigorous, scores may appear lower on the new scale than on the previous scale for certain grades and subjects.

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			Number of Students	Mean Developmental Scale Score	Percentage Passing (% 245 or above)	% in each Achievement Level					Vocabulary	Reading Application	Literacy Analysis: Fiction and Nonfiction	Informational Text and Research Process	
10	Number of Points Possible					1	2	3	4	5		10	13	9	13
10	44	MONROE	551	248	59	17	25	24	23	12	59	7	8	6	8
10	45	NASSAU	827	247	60	13	28	28	24	8	60	7	8	6	8
10	46	OKALOOSA	2,006	252	65	9	26	27	24	15	65	8	8	6	9
10	47	OKEECHOBEE	394	241	39	22	39	17	14	8	39	6	7	5	7
10	48	ORANGE	12,667	244	49	21	30	21	18	10	49	7	8	6	8
10	49	OSCEOLA	3,924	241	44	24	32	21	16	7	44	7	7	5	8
10	50	PALM BEACH	12,767	246	54	18	29	22	20	11	54	7	8	6	8
10	51	PASCO	4,659	245	51	17	32	24	19	9	51	7	8	6	8
10	52	PINELLAS	7,448	244	49	21	30	22	18	9	49	7	8	6	8
10	53	POLK	6,100	239	39	28	33	18	14	7	39	6	7	5	7
10	54	PUTNAM	581	240	40	24	36	21	14	6	40	6	7	5	7
10	55	ST JOHNS	2,416	253	70	9	21	25	27	19	70	8	9	7	9
10	56	ST LUCIE	2,841	242	45	22	34	21	17	6	45	7	7	5	8
10	57	SANTA ROSA	1,816	251	64	9	26	27	25	12	64	8	8	6	8
10	58	SARASOTA	2,919	250	61	12	27	24	23	15	61	7	8	6	9
10	59	SEMINOLE	4,862	250	63	12	26	25	23	15	63	7	8	6	9
10	60	SUMTER	515	245	51	18	30	24	18	9	51	7	8	6	8
10	61	SUWANNEE	340	242	45	24	31	23	14	9	45	7	8	5	8
10	62	TAYLOR	159	245	50	22	28	19	19	13	50	7	8	6	8
10	63	UNION	147	245	53	14	33	31	16	6	53	7	8	6	8
10	64	VOLUSIA	4,372	245	50	18	32	22	18	10	50	7	8	6	8
10	65	WAKULLA	289	249	60	12	28	25	22	13	60	7	8	6	8
10	66	WALTON	477	243	46	17	37	22	17	7	46	7	8	6	8
10	67	WASHINGTON	229	242	47	21	32	23	17	7	47	7	7	6	7
10	68	FSDB	45	218	2	64	33	0	0	2	2	4	5	3	5
10	71	FL VIRTUAL	205	247	52	13	36	26	15	11	52	7	8	6	8
10	72	FAU LAB SCH	54	272	100	0	0	11	35	54	100	9	11	8	11
10	73	FSU LAB SCH	164	253	71	4	25	30	25	15	71	8	9	6	9
10	74	FAMU LAB SCH	29	245	38	3	59	14	14	10	38	7	8	6	8
10	75	UF LAB SCH	115	254	66	10	24	17	24	25	66	8	9	7	9
10	80	COMM COLLEGES	36	231	17	33	50	11	6	0	17	6	6	4	6

Note: \* No data are reported when fewer than ten students tested or if any Achievement Level percentage equals 100. Percentages may not add to 100 due to rounding.  
05/18/2012 Florida Department of Education





## The American Diploma Project

The American Diploma Project (ADP) was created in 1996 by the National Governors Association and business leaders.<sup>1</sup> In 2001, pursuant to funding from The Hewlett Foundation, ADP formed a partnership of four national organizations (Achieve, Inc., The Education Trust, The Fordham Foundation and The National Alliance of Business) and five states (Indiana, Kentucky, Massachusetts, Nevada and Texas). The partnership worked to build constituencies and develop policies to support a coherent K-16 system and to ensure that American high school students have the knowledge and skills necessary for success following graduation, whether in college, the workplace, or the armed services.<sup>2</sup>

## The American Diploma Project Network

In 2005, Achieve launched the American Diploma Project Network. Starting with 13 states, the Network has grown to include 35 states<sup>3</sup> educating 85 percent of all U.S. public school students. Through the ADP Network governors, state education officials, postsecondary leaders, and business executives work together to improve postsecondary preparation by aligning high school standards, graduation requirements, and assessment and accountability systems with the demands of college and careers.<sup>4</sup>

ADP Network states committed to:

- Align high school standards and assessments with the knowledge and skills required for the demands of college and careers.
- Establish graduation requirements that require all high school graduates to complete a college- and career-ready curriculum so that earning a diploma assures a student is prepared for postsecondary education.
- Develop statewide high school assessment systems anchored to college- and career-ready expectations.
- Create comprehensive accountability and reporting systems that promote college and career readiness for all students.

Although all Network states are committed to a common set of key policy priorities each state has developed its own plan for achieving those priorities.<sup>5</sup>

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<sup>1</sup> American Diploma Project and the Tennessee Diploma Project, *available at* <http://jc-schools.net/amer-diploma-project.htm>.

<sup>2</sup> North Carolina, Conferences of English Instructor, *American Diploma Project*, *available at* <http://www.nccei.org/newsletter/adp.html>.

<sup>3</sup> Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, New Jersey, New Mexico, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas, Virginia, Washington, and Wisconsin. Email, Achieve, Office Administrator (Oct. 24, 2012).

<sup>4</sup> Achieve, *The ADP Network*, *available at* <http://www.achieve.org/adp-network>.

<sup>5</sup> *Id.*

## Achieve

Achieve manages a range of Networks, most notably the 35-state American Diploma Project Network, the network of 25 states in the Partnership for Assessment of Readiness for College and Careers and the network of the 26 Lead Partner States in the Next Generation Science Standards effort.<sup>6</sup>

Achieve<sup>7</sup> is strongly committed to ensuring all students graduate from high school “college and career ready.” According to Achieve, all 50 states and the District of Columbia have adopted English language arts/literacy and mathematics standards that reflect the knowledge and skills college and employers demand of high school graduates. Of these, 46 states and the District of Columbia adopted the Common Core State Standards (CCSS); the remaining four states (Alaska, Nebraska, Texas and Virginia) developed and adopted their own college and career ready standards. Twenty-three states and the District of Columbia have not only adopted CCSS/CCR but increased high school graduation requirements; the other 27 states have not.<sup>8</sup>

## Pathways to a Standard High School Diploma

States raising their course requirements in English language arts/literacy and mathematics to the college and career ready (CCR) level structured course requirements for a standard high school diploma in one of two ways:

- **Mandatory:** Students earn a high school diploma only if they complete the required courses. **Nine states (Florida, Georgia, Tennessee,<sup>9</sup> Kentucky, Nebraska, Iowa,**

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<sup>6</sup> Achieve, *Our Networking*, available at <http://www.achieve.org/our-networks>.

<sup>7</sup> Achieve was created in 1996 by the nation’s governors and corporate leaders. Achieve is an independent, bipartisan, nonprofit education reform organization based in Washington D.C. that helps states raise academic standards and graduation requirements, improve assessments, and strengthen accountability. <http://www.achieve.org/achieve-report-shows-college-and-career-readiness-new-norm-across-united-states>.

<sup>8</sup> American Diploma Project Network, *2012 Closing the Expectations Gap, 50-State Progress Report on the Alignment of K-12 Policies and Practice with the Demands of College and Careers*, at 3 and 8 (Sept. 2012).

<sup>9</sup> Tennessee’s high school reform effort was accomplished both legislatively and via the administrative rulemaking process. The state:

- Eliminated separate college preparatory and vocational curricula and imposed the same graduation requirements on all students. Rule 0520-1-3-.06(2), Tenn. Comp. R. & Regs. (2009). The new graduation requirements are effective for students entering ninth grade in 2009-2010. The two-track system remains in effect for students entering ninth grade prior to 2009-2010. Rule 0520-1-3-.06(1)(b), Tenn. Comp. R. & Regs. (2009).
- Adopted “College & Career Ready” academic standards.
- Eliminated Tennessee’s comprehensive, high-stakes, Gateway assessment program and replaced it with several rigorous end-of course (EOC) examinations. Rule 0520-1-3-.06(2)(d), Tenn. Comp. R. & Regs. (2009). The new high school end-of-course examination requirements are effective for students entering ninth grade in 2009-2010. The Gateway examination requirement remains in effect for students entering ninth grade prior to 2009-2010. Rule 0520-1-3-.06(1)(d), Tenn. Comp. R. & Regs. (2009).
- Required diagnostic testing of all students in grades 8, 10, and 11 to assess each student’s progress towards postsecondary readiness. 2007 Tenn. Pub. Acts 273; Tenn. Code Ann. § 49-6-6001(b) (2009).

New York Board of Regents is considering offering two new diplomas — the Career and Technical Education Regents diploma and the Science, Technology, Engineering and Mathematics, or STEM, Regents diploma. These would be in addition to the current one-size-fits-all Regents diploma, which requires passing five subject matter tests. School Book, *New Diplomas Will Not Lower Standards, Regents Chancellor Says*, available at <http://www.nytimes.com/schoolbook/2012/04/25/new-diplomas-will-not-lower-standards-regents-chancellor-says/>.

Minnesota, Delaware, and Hawaii) and the District of Columbia have set mandatory course requirements.

- **Default:** All students are enrolled in the “default” CCR curriculum but students are allowed to opt out of the requirements if their parents sign a waiver. States establish a default diploma in one of two main ways:
  - **Minimum Diploma:** Seven states (Texas, Oklahoma, Arkansas, Mississippi, Alabama, Indiana, and Ohio) offer a separate minimum diploma for students who opt out of the default CCR curriculum.
  - **Personal Modification:** Seven states (New Mexico, Arizona, North Carolina, Utah, Washington, Michigan, and North Carolina) allow students to opt out of individual courses — typically advanced-level mathematics or science courses — but award students the *same diploma* as those who complete the full set of CCR graduation requirements.

Of the **14 states** with a default CCR diploma with a minimum or personal modification option, **nine** track the percentage of students opting out at the state level. Of these states, **five** report publicly the percentage of students earning each type of diploma at the school level. States that do not have CCR diploma requirements in place but have adopted the CCSS/CCR standards have gaps between the content and skills articulated in the standards and the courses currently required for a high school diploma.<sup>10</sup>

## Courses Required for a Standard High School Diploma

When comparing standard high school diploma requirements among states, it is not only important to know whether the requirements are mandatory or partially optional, but also what courses and how many courses are required. In December 2011, Achieve compared course requirements of 21 states and the District of Columbia. At that time Achieve only recognized 21 states and the District of Columbia as requiring students to complete a college-and career-ready curriculum.<sup>11</sup> Since that time, more states have adopted the common core standards; now Achieve recognizes that all 50 states and the District of Columbia have adopted CCR standards in English language arts/literacy and mathematics. Of the 21 states compared in 2011, only Texas required more credits than Florida. Florida requires a minimum of 24 credits with certain school districts requiring more; Texas requires 26 credits. Note Texas offers a minimum standard high school diploma for students who opt out of the CCR curriculum – Florida does not.<sup>12</sup>

Florida, Alabama, Delaware, the District of Columbia, Mississippi, New Mexico, and Utah all require 24 credits. Note Alabama, Mississippi, New Mexico, and Utah all allow alternatives or modifications to curriculum requirements in order for a student to earn a standard high school diploma; Florida, Delaware, and the District of Columbia do not.

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<sup>10</sup> American Diploma Project Network, *2012 Closing the Expectations Gap, 50-State Progress Report on the Alignment of K-12 Policies and Practice with the Demands of College and Careers*, at 18 (Sept. 2012).

<sup>11</sup> Achieve, *State College- and Career-Ready High School Graduation Requirements*, at 1 (Dec. 2011).

<sup>12</sup> *Id.*, at 3-7.



Fourteen of the 21 states (Arizona, Arkansas, Georgia, Indiana, Kentucky, Michigan, Minnesota, Nebraska, North Carolina, Ohio, Oklahoma, South Dakota, Tennessee, and Washington) require less than 24 credits. Of these 14 states, 9 states (Arizona, Arkansas, Indiana, Michigan, North Carolina, Ohio, Oklahoma, South Dakota, and Washington) allow either a minimum diploma or personal modification option; and 4 states (Georgia, Kentucky, Minnesota, and Nebraska) established mandatory requirements.<sup>13</sup>

JMA 10/25/12

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<sup>13</sup> *Id.*





# 2012 Closing the Expectations Gap


**Achieve**  
 American Diploma Project Network

**50-STATE PROGRESS REPORT**  
 on the Alignment of K–12 Policies and Practice  
 with the Demands of College and Careers







## ABOUT ACHIEVE

Created in 1996 by the nation's governors and corporate leaders, Achieve is an independent, bipartisan, nonprofit education reform organization leading the effort to make college and career readiness a national priority. To this day, Achieve remains the only education reform organization led by a Board of Directors comprised of national business executives and prominent governors from each political party. Through its 35-state American Diploma Project Network, Achieve supports governors, state K–12 and postsecondary leaders, and business leaders as they work together to develop policies that

make the transition from high school graduation to postsecondary education and careers seamless. Achieve partnered with the National Governors Association and Council of Chief State School Officers on the Common Core State Standards (CCSS) Initiative and was selected by states to manage the Partnership for Assessment of Readiness for College and Careers to create next generation assessments aligned to the CCSS. Achieve is also managing a state-led process to develop the Next Generation Science Standards. For more information, see [www.achieve.org](http://www.achieve.org).

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Editorial assistance and design:  
KSA-Plus Communications, Inc.

# CONTENTS

	<b>Executive Summary</b>	<b>3</b>
	<b>Introduction</b>	<b>5</b>
	<b>Standards</b>	<b>8</b>
	<b>Graduation Requirements</b>	<b>16</b>
	<b>Assessments</b>	<b>24</b>
	<b>Accountability, Data and Public Reporting Systems</b>	<b>32</b>
	<b>Conclusion</b>	<b>38</b>
	<b>Endnotes</b>	<b>39</b>
	<b>Appendix A: Achieve Resources</b>	<b>40</b>
	<b>Appendix B: Methodology</b>	<b>42</b>



# CONTENTS

1	Introduction
2	Chapter 1
3	Chapter 2
4	Chapter 3
5	Chapter 4
6	Chapter 5
7	Chapter 6
8	Chapter 7
9	Chapter 8
10	Chapter 9
11	Chapter 10
12	Chapter 11
13	Chapter 12
14	Chapter 13
15	Chapter 14
16	Chapter 15
17	Chapter 16
18	Chapter 17
19	Chapter 18
20	Chapter 19
21	Chapter 20
22	Chapter 21
23	Chapter 22
24	Chapter 23
25	Chapter 24
26	Chapter 25
27	Chapter 26
28	Chapter 27
29	Chapter 28
30	Chapter 29
31	Chapter 30
32	Chapter 31
33	Chapter 32
34	Chapter 33
35	Chapter 34
36	Chapter 35
37	Chapter 36
38	Chapter 37
39	Chapter 38
40	Chapter 39
41	Chapter 40
42	Chapter 41
43	Chapter 42
44	Chapter 43
45	Chapter 44
46	Chapter 45
47	Chapter 46
48	Chapter 47
49	Chapter 48
50	Chapter 49
51	Chapter 50
52	Chapter 51
53	Chapter 52
54	Chapter 53
55	Chapter 54
56	Chapter 55
57	Chapter 56
58	Chapter 57
59	Chapter 58
60	Chapter 59
61	Chapter 60
62	Chapter 61
63	Chapter 62
64	Chapter 63
65	Chapter 64
66	Chapter 65
67	Chapter 66
68	Chapter 67
69	Chapter 68
70	Chapter 69
71	Chapter 70
72	Chapter 71
73	Chapter 72
74	Chapter 73
75	Chapter 74
76	Chapter 75
77	Chapter 76
78	Chapter 77
79	Chapter 78
80	Chapter 79
81	Chapter 80
82	Chapter 81
83	Chapter 82
84	Chapter 83
85	Chapter 84
86	Chapter 85
87	Chapter 86
88	Chapter 87
89	Chapter 88
90	Chapter 89
91	Chapter 90
92	Chapter 91
93	Chapter 92
94	Chapter 93
95	Chapter 94
96	Chapter 95
97	Chapter 96
98	Chapter 97
99	Chapter 98
100	Chapter 99
101	Chapter 100





# EXECUTIVE SUMMARY



At the 2005 National Education Summit on High Schools, governors from 45 states joined with business leaders and education officials to address a critical problem in American education: Too few students graduate from high school prepared for the demands of college and career in an increasingly competitive global economy. Since then, to monitor and report on state progress in adopting policies that prepare all students for their next steps after high school graduation, Achieve has conducted an annual survey of all 50 states and the District of Columbia on key college- and career-ready (CCR) policies, including aligning standards, graduation requirements, assessments, and data and accountability systems with the expectations of postsecondary institutions and employers.

With policy adoption nearly universal in many of these critical areas, for the first time this year's survey and report also address issues regarding the implementation of these policies. This report provides an overview of the progress states are making — as well as draws attention to key issues states should consider as adoption and implementation work continues.

## KEY FINDINGS



### Standards

All **50 states and the District of Columbia** have adopted English language arts/literacy and mathematics standards that reflect the knowledge and skills colleges and employers demand of high school graduates. Of these, **46 states and the District of Columbia** adopted the Common Core State Standards (CCSS); the remaining **four states** have developed and adopted their own CCR standards. By 2015–16, all K–12 English language arts and mathematics instruction *should* reflect CCR expectations.

Now that CCSS/CCR standards have been adopted, states face the challenge of implementing these standards and ensuring that all students have access to the full range of CCSS/CCR standards. To this end, Achieve asked states about their support for the transition to full implementation of CCSS/CCR standards through curricular and instructional materials and how state-provided professional development is changing to ensure that teachers and principals are equipped to transition to the CCSS/CCR standards. Nearly all states are supporting districts and schools by *providing guidance*, such as high-quality processes and exemplars, and *developing curricular and supplemental materials* aligned to the standards for voluntary use. Far fewer states are *approving/certifying lists of approved materials*, and even fewer are *requiring districts and schools to use materials aligned to the standards*.



### Graduation Requirements

**Twenty-three states and the District of Columbia** have not only adopted CCSS/CCR academic content standards but also established requirements that all high school graduates must complete a CCR curriculum that includes at least mathematics through the content typically taught in an Algebra II course (or its equivalent) and four years of grade-level English to earn a high school diploma. This number includes **three states** that raised requirements in the last year.

The remaining states have adopted CCSS/CCR standards but have not yet raised their graduation requirements to ensure that all students meet the CCR expectations found in their standards.



## Assessments

**Eighteen states** administer assessments to high school students that postsecondary institutions use to make decisions about students' readiness for college, including **four new states** since 2011. Any assessment states administer to measure high school students' mastery of CCR content in English and mathematics must have credibility with postsecondary institutions across the state. **Seven states** with college-ready assessments have developed tests aligned to their state standards, while the remaining **11 states** administer a national college admissions exam.

**Forty-four states and the District of Columbia** are collaborating, either through the Partnership for Assessment of Readiness for College and Careers or the Smarter Balanced Assessment Consortium, to develop common assessments aligned to the CCSS. **Nearly all states** are planning to administer new assessments in 2014–15 aligned to the CCSS in English language arts/literacy and math or to state-developed CCR standards.



## Accountability, Data and Public Reporting Systems

Designing an accountability system focused on preparing all students for success in postsecondary education and careers requires using a rich, comprehensive set of indicators. Achieve's survey asked states about the inclusion of four critical CCR indicators in their accountability systems: the percentages of high school graduates who earn a CCR diploma, obtain a readiness score on a high school assessment, earn college credit while in high school and require remediation upon entering college. Achieve also asked states about the ways they use each indicator, including whether they publicly report school-level data, set statewide goals, create incentives and rewards to drive progress, and hold schools and districts accountable for improving student performance.

Consistent with years past, states' accountability systems continue to slowly add CCR indicators and uses. Only **one state** uses all four CCR indicators in multiple ways at this time. For the first time this year, Achieve identified **four states** with accountability systems that include at least two CCR indicators and at least two uses. These states achieved partial credit for having a CCR accountability system. **Thirty-two states** include at least one CCR indicator and use — seven more states than last year.





## CCR GRADUATION REQUIREMENTS ACROSS STATES

States raising their course requirements in English and mathematics to the CCR level have structured the requirements in one of two ways:

1. **Mandatory:** The most direct approach is to establish mandatory requirements that result in students earning a high school diploma only if they complete the required courses. **Nine states and the District of Columbia** have set mandatory course requirements.
2. **Default:** An alternative approach is to automatically enroll all students in the “default” CCR curriculum but allow students to opt out of the requirements if their parents sign a waiver. States establish a default diploma in one of two main ways:

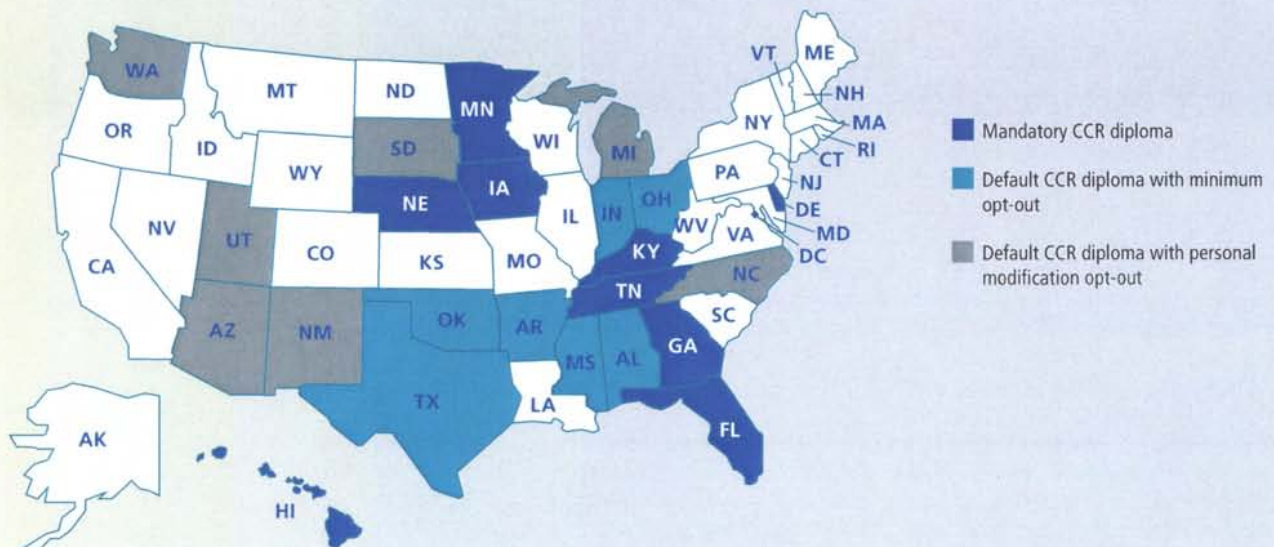
- ▶ **Minimum Diploma:** States offer a separate minimum diploma for students who opt out of the default CCR curriculum. It’s important that the **seven states** with a minimum diploma opt-out carefully monitor which students in which schools earn which diploma to ensure that all students have access to a rigorous curriculum.

- ▶ **Personal Modification:** States allow students to opt out of individual courses — typically advanced-level mathematics or science courses — but award students the same diploma as those who complete the full set of CCR graduation requirements. For the **seven states** with a personal modification opt-out, it is critical that they track student-level course-taking data so they know which students in which schools are completing the courses that prepare them for success in college and the workplace — and how students with and without personal modifications are faring after high school (e.g., remediation rates for recent graduates at two- and four-year postsecondary institutions).

States that have adopted CCR graduation requirements — but have not made course requirements mandatory — should take steps to build in monitoring of who is opting out of course sequences or modifying their course of study by opting out of specific courses. Unless the number of students opting out of default CCR requirements is monitored and reported, critical course-taking completion data are lost, along with the opportunity to identify course patterns that best prepare students for college success and promising practices. Further, this information can inform decisions about teacher assignment and resource

allocation and identify areas of challenge and intervention for students. States in the process of phasing in new course requirements — or those that already have CCR requirements in place — should work with districts and schools to collect this information. (See table on page 21.) Of the **14 states** with a default CCR diploma with a minimum or personal modification option, **nine** track the percentage of students opting out at the state level. Of these states, **five** report publicly the percentage of students earning each type of diploma at the school level.

States that do not have CCR diploma requirements in place but have adopted the CCSS/CCR standards undoubtedly have gaps between the content and skills articulated in the standards and the courses currently required for a high school diploma. Collecting and reporting individual districts’ high school course requirements — which many times will exceed the course requirements “floor” that the state sets — can serve as a diagnostic assessment of how wide the gap is between the state and district course requirements and the CCSS/CCR standards — as well as the lift required to fully implement the CCSS/CCR standards in all schools and districts.







## TYING STAKES AND INCENTIVES TO CCR ASSESSMENTS

Currently, **more than half of the states** administer high-stakes exit exams to students by tying passage of minimum standards tests to high school graduation. The implementation of CCSS/CCR standards and aligned assessments provides an opening for states to raise the question about whether they plan to continue implementing policies that tie results of high school assessments to high school graduation determinations. ***Given the current state of student readiness and school capacity, virtually no state is in a position to insist in the next year or even in the next few years that all students hit the CCR level of performance on these tests to earn a high school diploma.*** For these new

assessments to have credibility, especially in the postsecondary community, the test content and the performance standards have to be firmly anchored in what it takes to be successful in college and career.

New assessments present an opportunity for states to consider new ways to make high school testing meaningful for students, without either sacrificing the goal of getting all graduates ready for their next steps or subjecting the new assessments to the same downward pressure traditionally seen with high-stakes graduation exams. Students will be better off with high school tests that measure the skills they need to succeed after high school so they can know whether they are on track. These new tests will send a powerful message if assessment results clearly signal to students that they are ready for placement into entry-level, credit-bearing

postsecondary courses and training or that there is additional work needed to close preparation gaps.

States should consider a range of stakes and incentives for student performance on the new CCR anchor assessment. This range could include counting test performance for a portion of the course grade (an option that is exponentially easier with end-of-course exams than other types of assessments), providing bonuses in state financial aid programs for students who perform well on the assessment and ensuring that students who score at the college-ready level on the assessment can be guaranteed enrollment in credit-bearing (nonremedial) courses in college. States could also consider requiring students to perform at a lower, but still meaningful, level on the assessment to graduate.



# **WHAT DO PEOPLE DO AT WORK?**

## **A Profile of U.S. Jobs from the Survey of Workplace Skills, Technology, and Management Practices (STAMP)**

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## **Introduction**

Researchers across several fields, including sociology, labour economics, education, and public policy, are keenly interested in questions of skill shifts, technology, and workplace reorganization because of their centrality to a number of broader research issues. These issues include:

- growth of wage inequality in the last two decades, which some attribute to a technologically-induced skills shortage (Katz and Murphy 1992; Danziger and Gottschalk 1995; Autor, Katz, and Krueger 1998; Morris and Western 1999; Fernandez 2001; Bresnahan, Brynjolfsson, and Hitt 2002)
- persistently disappointing earnings and employment prospects of less-skilled workers (Holzer 1996)
- persistent racial inequality and high poverty levels, and concern over the movement of persons from welfare to rewarding work (Wilson 1996; Moss and Tilly 2001; Holzer and Stoll 2001)
- potential for remediation of inequality through improved education, smoother transitions from school to work, and diffusion of employee involvement or "high performance" workplace practices (Murnane and Levy 1996; Rosenbaum and Binder 1997; U.S. National Commission on Excellence in Education 1983; Smith 1997; Appelbaum, Bailey, Berg, and Kalleberg 2000; Osterman 2000)
- concern over the possibility of various forms of job degradation (routinization, effort intensification, outsourcing, precarity, lower real wages and benefits) resulting from the adoption of "lean and mean" organizational reforms (Harrison and Bluestone 1988; Harrison 1994; Graham 1993; Green 2006)

All of this research rests on some theory, empirical findings, or assumptions regarding the nature, level, and trend of job skill requirements. However, one problem is that these studies

use either rough proxy measures of job skill demands available in nationally representative data sets (broad occupation group, personal education, average education within occupations), DOT scores, or, more rarely, finer measures of job skill demands constructed for unique surveys administered to restricted samples (Holzer 1996). Other entries in this literature are qualitative cases studies using unstandardized methodologies (e.g., Rosenbaum and Binder 1997) or reports of high-level commissions whose conclusions rest primarily on impressionistic evidence or speculative assumptions (e.g., U.S. Department of Labor. Secretary's Commission on Achieving Necessary Skills 1991).

Aside from O\*NET, a set of occupation skill scores collected in the same period as the data described here, the few U.S. surveys of work since the late 1970s tended to have a small set of items. By contrast, Canada, Australia, the UK, Germany, and other European countries, as well as the European Union itself, have conducted major surveys of job skill requirements (e.g., Statistics Canada 2004; Goddard 2001; Harley 2002; Felstead et al 2007; Spitz-Oener 2006; Parent-Thirion, Macías, Hurley, Vermeulen 2007).

In addition, the recent items available for the United States tended to use overly general wording and subjective scales (e.g., rating scales, vague quantifiers), which are less interpretable than more behaviourally specific measures and subject to significant measurement error (Handel 2000, 2008). In many ways O\*NET maintains some of these limitations (see Handel, this volume).<sup>1</sup> Likewise, almost no survey, including O\*NET, has equally strong coverage of job skill requirements, technology use, and employee involvement (EI) practices despite their presumed importance and interrelationships. Consequently, researchers have only a cloudy

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<sup>1</sup> For example, the measures of math, reading, and writing tasks are rating scales that do not correspond clearly to different objective levels of complexity or easily understood categories of educational achievement. Other important job characteristics are beyond O\*NET's scope altogether, such as promotion opportunities, downsizing/outsourcing, workload, work pace, stress, and pay and benefits.

sense of the levels and kinds of job skill requirements, rates of change, the dimensions along which job skills are changing, and the interrelationships between skills, technology, and EI. If current concerns are to be addressed with any degree of specificity, the measures of job requirements need to be more precise, concrete, and comparable to person characteristics covering all three of the key content areas, so that researchers and users of research have some notion of the absolute levels of job demands, rather than just a score on a rating scale that has no clear meaning outside the framework of a particular survey.

With these goals in mind, the survey of Skills, Technology, and Management Practices (STAMP) was developed to collect direct information on job skill requirements, technology use, employee involvement practices, and other job characteristics that have been subjects of broad interest recently.

In particular, STAMP was designed to address the following questions:

1. What is the distribution of jobs by level of skills, computer use<sup>2</sup>, and participation in employee involvement practices? In other words, what is the skill profile of the American job structure?
2. What are the functional and causal relationships between skill requirements, computer use, and employee involvement?
3. What are the effects of skill requirements, computer use, and EI on wages, working conditions, and other job characteristics (e.g., work intensity, promotions, layoffs, outsourcing, unionization, job satisfaction)?
4. What are the trends in
  - a. skill requirements, technology, and EI practices?
  - b. their functional and causal interrelationships?
  - c. their relationships to the other outcomes noted in (3) above?

This paper is an overview of STAMP results mainly addressed to the first issue, providing a systematic profile of the American job structure that can serve as a basis for discussions of the

---

<sup>2</sup> For ease of exposition, "computer use" is sometimes used as a shorthand to refer to the broader category "computer and other technology use."

skill requirements of American jobs. The goal is primarily descriptive, with tentative implications for some of the other issues noted as they arise, because until this time, or at least since the final Quality of Employment Survey in 1977, no such portrait has been produced. The other questions will be addressed in detail in a series of analytic papers.

The first section describes the approach to improving upon existing measures of job content. The second section describes the sample and potential implications for estimates of job requirements in the U.S. The third through sixth sections present results on skill requirements, technology use, employee involvement, and other management practices, respectively. A final section concludes.



**Table 2. Math, Reading, Writing, and Document Use (percentages)**

	All	Upper WC	Low WC	Upper BC	Low BC	Service
<b>Percentage (weighted)</b>	100	36.1	25.4	10.3	13.0	15.1
<b>N (unweighted)</b>	2,304	1,010	569	161	271	291
<b>Math (<math>\alpha=0.81</math>)</b>						
1. Any math	94	95	97	94	91	88
2. Add/subtract	86	93	90	87	78	73
3. Multiply/divide	78	89	82	81	65	57
4. Fractions	68	82	68	70	58	40
<i>Any more advanced</i>	22	35	9	41	19	4
5. Algebra (basic)	19	30	8	36	16	4
6. Geometry/trig	14	20	5	29	15	2
7. Statistics	11	22	5	10	6	2
8. Algebra (complex)	9	14	3	16	8	2
9. Calculus	5	8	1	8	5	1
<b>Reading (<math>\alpha=0.80</math>)</b>						
1. Any reading	96	99	97	91	91	95
2. One page	82	96	86	72	57	67
3. Five pages	54	81	47	46	26	32
4. News articles, et al. <sup>a</sup>	42	64	37	27	21	24
5. Prof'l articles <sup>b</sup>	38	65	26	24	15	23
6. Books	53	76	40	53	35	38
<b>Writing (<math>\alpha=0.64</math>)</b>						
1. Any writing	91	99	93	83	80	83
2. One page	61	86	56	46	36	41
3. Five pages	24	47	13	12	7	9
4. News articles, et al. <sup>a</sup>	9	20	4	1	4	3
5. Books/prof'l arts <sup>b</sup>	3	7	00	00	0	2
<b>Documents</b>						
1. Use any forms	67	78	77	61	46	46
4. Form complexity <sup>c</sup>	3.16	3.99	3.65	2.62	1.84	1.86

Note: All figures are percentages unless noted.

a. Category includes articles or reports for magazines, newspapers, or newsletters.

b. Category includes articles for scholarly, scientific, or professional journals

c. Mean values on a rating scale ranging from 0=no form use, 1 = extremely simple, 11 = extremely complicated (0=no form use).

The occupation groups are defined as follows:

*Upper WC = upper white collar (management, professional, technical occupations)*

*Lower WC = lower white collar (clerical, sales)*

*Upper BC = upper blue collar (craft and repair workers—e.g., construction trades, mechanics)*

*Lower BC = lower blue collar (factory workers, truck drivers, etc.)*

*Service = e.g., food service workers, home health care aides, child care, janitors, police and fire fighters*






# PATHWAYS TO PROSPERITY

MEETING THE CHALLENGE OF  
PREPARING YOUNG AMERICANS  
FOR THE 21ST CENTURY

PATHWAYS TO PROSPERITY PROJECT

 HARVARD  
GRADUATE SCHOOL OF EDUCATION

FEBRUARY 2011



# ADVANCE PRAISE FOR PATHWAYS TO PROSPERITY: MEETING THE CHALLENGE OF PREPARING YOUNG AMERICANS FOR THE 21ST CENTURY

"A must-read paper that focuses on the need to develop meaningful career training as a part of comprehensive school reform. Career training has been ignored for far too long, but is essential if we're going to address the "career-ready" piece of the puzzle that, along with the "college-ready" piece, is now all the buzz."

Joel I. Klein, Chancellor, New York City Public Schools (2002-2010)

"This thoughtful paper makes a strong case for the development of multiple pathways leading from high school to post-secondary education or career training. Those of us who support a single-track system through high school need to carefully consider the questions raised in this provocative report."

Phil Bredesen, Governor of Tennessee (2003-2011)

"Preparing tomorrow's future leaders is a responsibility we all share. *Pathways to Prosperity* provides a clear way forward that demands the attention and participation of every sector working together to ensure our future success."

Sanford I. Weill, Chairman Emeritus, Citigroup and Chairman, National Academy Foundation

"*Pathways to Prosperity* opens the door to new strategies that can help a broader range of Americans, including the rapidly growing Latino population, gain the meaningful work and educational experiences they need to earn degrees and higher salaries, helping to create better jobs and a stronger workforce. The report reminds us that in order to close achievement gaps, we must develop a more effective and holistic strategy to develop human capital."

Sarita E. Brown, President, Excelencia in Education

"Anyone who cares about the future of America should read this report. Our nation's adolescents and young adults must be better prepared for today's and tomorrow's more technical jobs. We cannot afford to leave anyone behind."

George R. Boggs, President and CEO, American Association of Community Colleges



"America will not be able to resolve the crisis of unemployment, or the problem of losing the international race for more college graduates, by ignoring the large proportion of learners who achieve at high levels in applied learning settings. This report's clear-eyed examination of what the country needs and how those needs can be met is a welcome dose of realism. Following its lead could lead to more, not fewer, students earning degrees and career credentials."

Dr. Gail Mellow, President, LaGuardia Community College

"Massachusetts has demonstrated that high-quality career and vocational education programs can engage a wide range of students while providing them with both academic proficiency and the technical skills necessary for advanced training in high-demand fields. This thoughtful report points the way toward providing many more of our young people with the knowledge and skills that will expand their opportunity to fully participate in the jobs of our increasingly knowledge-based economy."

Mitchell D. Chester, Massachusetts Commissioner of Elementary and Secondary Education

"This important and timely report offers a compelling assessment of a growing skills gap threatening young people's ability to achieve the American Dream. It stands as a sobering call to action, offering effective ideas for making American education an engine for opportunity once again."

Paul Grogan, President and CEO, The Boston Foundation

"Employment rates for the nation's teens and young adults are at post-World War II lows—a true labor market depression. Based on experiences both here and abroad, *Pathways to Prosperity* points to the need for expanded employment and work-based learning opportunities for young people, closer ties between post-secondary education/training and the workplace, and expanded youth apprenticeships. The need has never been greater, and the report provides a clarion call for action now."

Andrew Sum, Director, Center for Labor Market Studies, Northeastern University





# TABLE OF CONTENTS

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## **1 I. THE CHALLENGE**

- 1 The Persistence of “The Forgotten Half”
- 2 A More Demanding Labor Market
- 4 Widening Skills and Opportunity Gaps
- 6 Setting the Right Target

---

## **9 II. WHY OUR CURRENT SYSTEM FAILS SO MANY YOUTH, AND WHAT CAN BE DONE TO FIX IT**

---

## **15 III. LESSONS FROM ABROAD**

- 15 Vocational Education in Northern and Central Europe
- 19 Two OECD Reports: “Learning for Jobs” and “Jobs for Youth”

---

## **23 IV. THE ROAD TO AN AMERICAN SOLUTION**

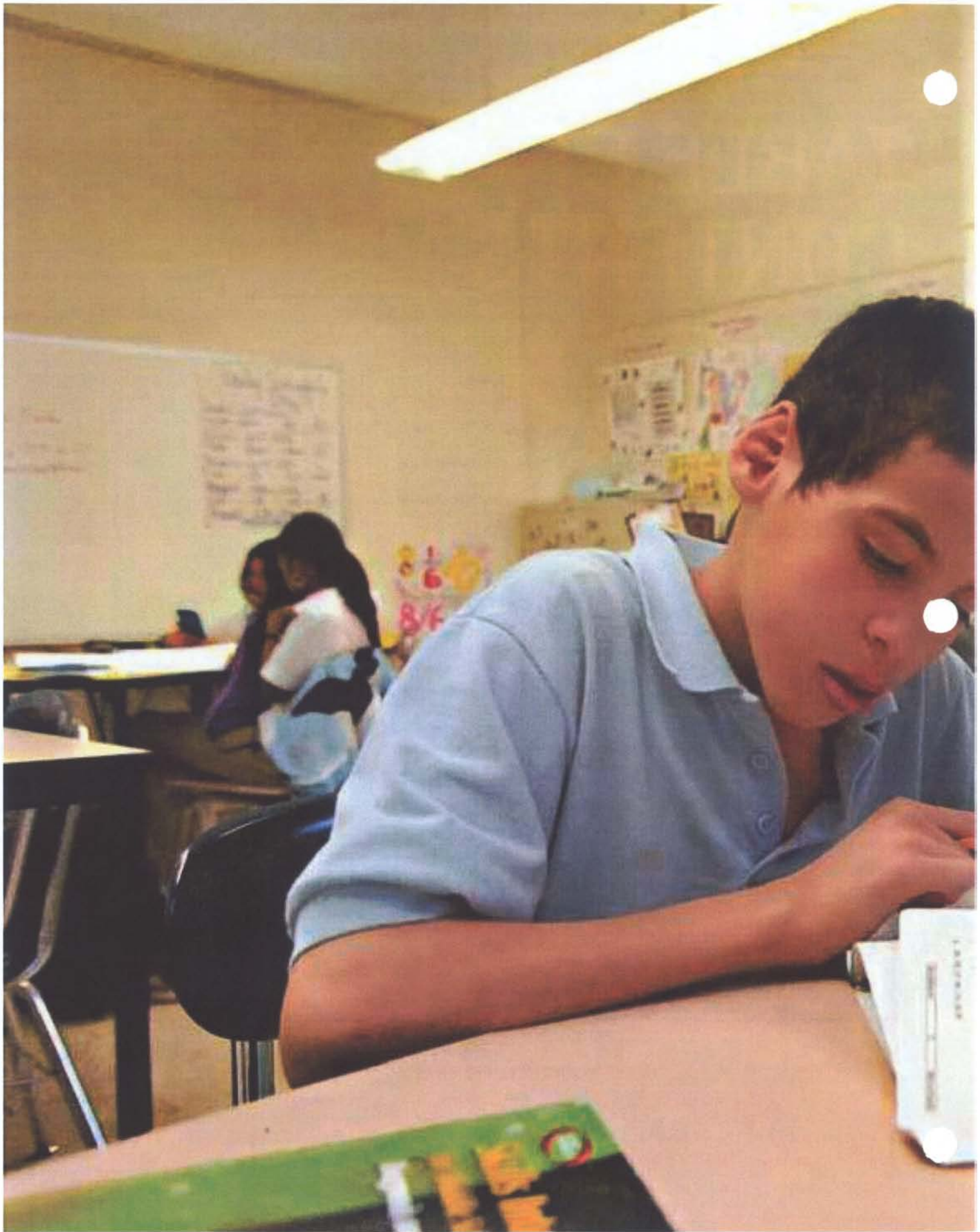
- 24 Multiple Pathways: A Broader Vision for School Reform
- 29 An Expanded Role for Employers
- 34 A New Social Compact with Youth

---

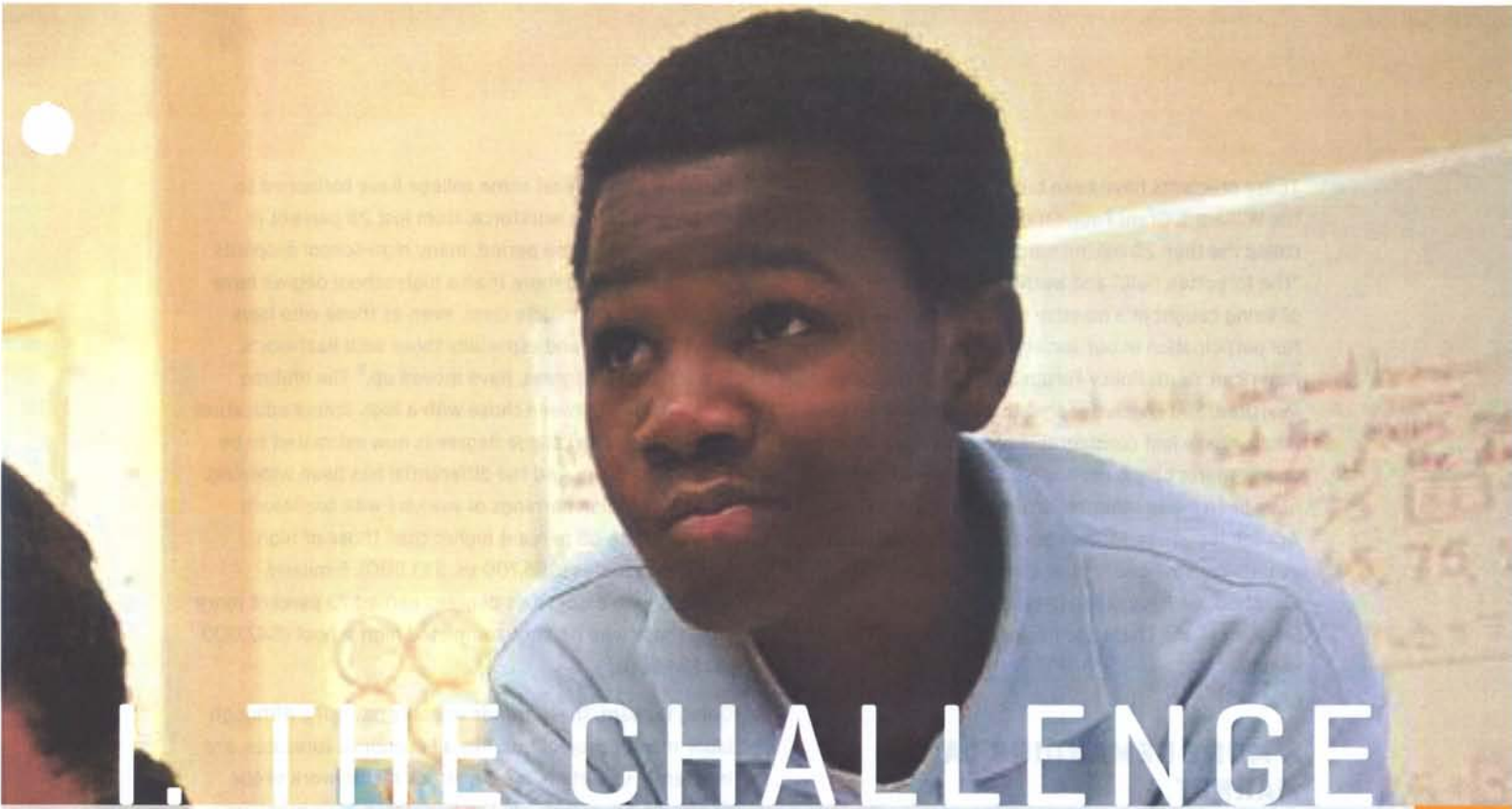
## **38 V. CONCLUSION**

### **39 ACKNOWLEDGEMENTS**

### **42 ENDNOTES**







# I. THE CHALLENGE

## THE PERSISTENCE OF "THE FORGOTTEN HALF"

One of the most fundamental obligations of any society is to prepare its adolescents and young adults to lead productive and prosperous lives as adults. This means preparing all young people with a solid enough foundation of literacy, numeracy, and thinking skills for responsible citizenship, career development, and lifelong learning. For over a century, the United States led the world in equipping its young people with the education they would need to succeed. By the middle of the 19th century, as Claudia Goldin and Lawrence Katz write in their book, *The Race between Education and Technology*, "the U.S. already had the most educated youth in the world." At the turn of the 20th century, just as Europe was catching up, the rapid spread of the "high school movement" helped the U.S. vault ahead again.

By 1940, the typical 18-year-old had a high school diploma, up from just 9 percent who had achieved this milestone in 1910. After World War II, the GI Bill helped usher in a huge expansion in higher education. As a result, members of the U.S. Baby Boom generation far surpassed their counterparts in other countries in educational attainment.

This surge in educational attainment laid the foundation for the staggering increase in American wealth and power that came to be known as the American Century. By 2000, per capita income, adjusted for inflation, was five to six times as large as it had been in 1900.<sup>1</sup>

Yet as we end the first decade of the 21st century, there are profoundly troubling signs that the U.S. is now failing to meet its obligation to prepare millions of young adults. In an era in which education has never been more important to economic success, the U.S. has fallen behind many other nations in educational attainment and achievement. Within the U.S. economy, there is also growing evidence of a "skills gap" in which many young adults lack the skills and work ethic needed for many jobs that pay a middle-class wage. Simultaneously, there has been a dramatic decline in the ability of adolescents and young adults to find work. Indeed, the percentage of teens and young adults who have jobs is now at the lowest level since World War II.<sup>2</sup>





These problems have been building for years. In 1988, the William T. Grant Foundation published a report that called the then 20 million non-college bound youth “the forgotten half,” and warned: “they are in danger of being caught in a massive bind that can deny them full participation in our society.”<sup>3</sup> A decade later, the American Youth Policy Forum issued *The Forgotten Half Revisited*, and concluded that these ill-equipped young adults “have lost considerable ground versus their counterparts only a decade earlier.” Since then, there have been many other reports—such as the National Academies’ study, *Rising above the Gathering Storm*—that have sounded similar alarms. Yet for all the attention, we have failed to take effective action. Meanwhile, the challenge has become increasingly urgent.

## A MORE DEMANDING LABOR MARKET

The “forgotten half” challenge has deepened with the growing importance of post-secondary education to success in the labor market. In 1973, nearly a third of the nation’s 91 million workers were high-school dropouts, while another 40 percent had not progressed beyond a high school degree. Thus, people with a high-school education or less made up 72 percent of the nation’s workforce. In an economy in which manufacturing was still dominant, it was possible for those with less education but a strong work ethic to earn a middle-class wage, as 60 percent of high school graduates did. In effect, a high school diploma was a passport to the American Dream for millions of Americans.<sup>4</sup>

By 2007, this picture had changed beyond recognition. While the workforce had exploded nearly 70 percent to 154 million workers, those with a high school education or less had shrunk to just 41 percent of the workforce. Put another way, while the total number of jobs in America had grown by 63 million, the number of jobs held by people with no post-secondary education had actually fallen by some 2 million jobs. Thus, over the past third of a century, all of the net job growth in America has been generated by positions that require at least some post-secondary education.

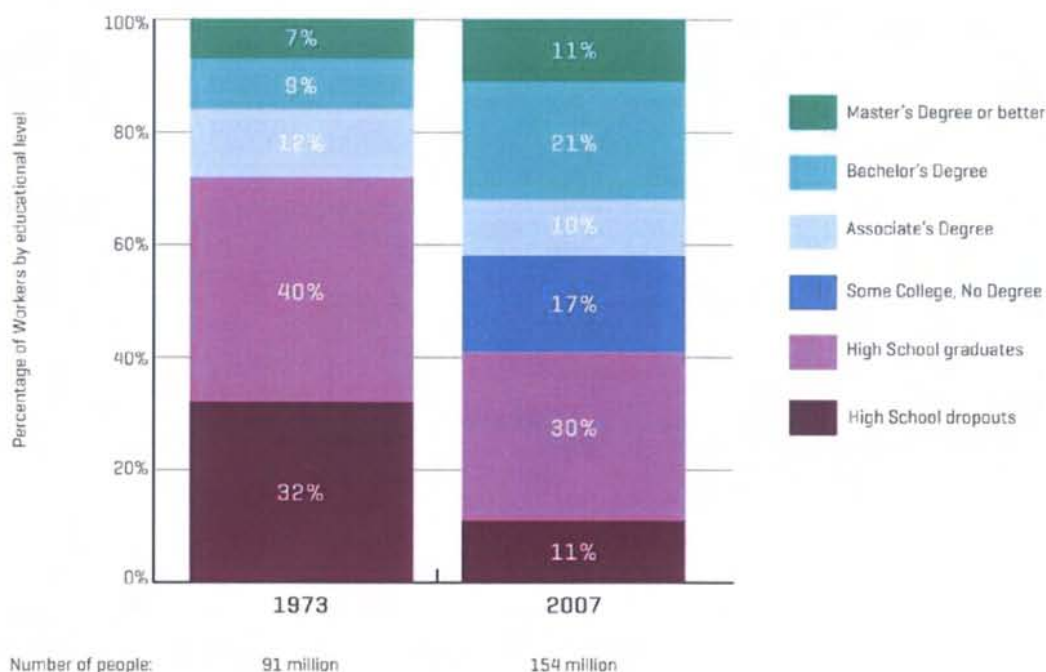
Workers with at least some college have ballooned to 59 percent of the workforce, from just 28 percent in 1973. Over the same period, many high-school dropouts and those with no more than a high-school degree have fallen out of the middle class, even as those who have been to college, and especially those with bachelor’s and advanced degrees, have moved up.<sup>5</sup> The lifetime earnings gap between those with a high school education and those with a college degree is now estimated to be nearly \$1 million. And the differential has been widening. In 2008, median earnings of workers with bachelor’s degrees were 65 percent higher than those of high school graduates (\$55,700 vs. \$33,800). Similarly, workers with associate’s degrees earned 73 percent more than those who had not completed high school (\$42,000 vs. \$24,300).<sup>6</sup>

Going forward, these trends will only intensify. Although labor market projections, like all economic forecasts, are inherently uncertain, we are struck by the work of the Center on Education and the Workforce at Georgetown University. The Center projects that the U.S. economy will create some 47 million job openings over the 10-year period ending in 2018. Nearly two-thirds of these jobs, in the Center’s estimation, will require that workers have at least some post-secondary education. This means, of course, that even in the second decade of the 21st century, there will still be job openings for people with just a high school degree, and even for high school dropouts. But the Center projects that applicants with no more than a high school degree will fill just 36 percent of the job openings, or just half the percentage of jobs they held in the early 1970s. Even if the Center has over-estimated demand for post-secondary credentials, the long-term trend is undeniable.

The message is clear: in 21st century America, education beyond high school is the passport to the American Dream. But how much and what kind of post-secondary is really needed to prosper in the new American economy?

The Georgetown Center projects that 14 million job openings—nearly half of those that will be filled by workers with post-secondary education—will go to people with an associate’s degree or occupational certificate. Many of these will be in “middle-skill” occupations such as electrician, and construction manager, dental

**FIGURE 1** Since 1973, jobs that require at least some college have exploded while opportunities for those with just a high school education have shrunk dramatically



Source: March CPS data, various years; Center on Education and the Workforce.

hygienist, paralegal and police officer. While these jobs may not be as prestigious as those filled by B.A. holders, they pay a significant premium over many jobs open to those with just a high school degree. More surprisingly, they pay more than many of the jobs held by those with a bachelor's degree. In fact, **27 percent of people with post-secondary licenses or certificates—credentials short of an associate's degree—earn more than the average bachelor's degree recipient.**<sup>7</sup>

Demand for middle-skilled professionals is exploding in the nation's hottest industry, healthcare, which has added over half a million jobs during the Great Recession. Openings for registered nurses and health technologists—positions that typically require an associate's degree—are expected to grow by more than 1 million by 2018. There will also be exceptionally rapid growth in such healthcare

support jobs as nursing aide, home health aide and attendant. Though such positions are still open to high-school graduates, they are increasingly filled by people with some post-secondary education or a certificate. Similarly, over half of massage therapists and dental assistants now have a post-secondary certificate.

There will also be a huge number of job openings in so-called blue-collar fields like construction, manufacturing, and natural resources, though many will simply replace retiring baby boomers. These fields will provide nearly 8 million job openings, 2.7 million of which will require a post-secondary credential. In commercial construction, manufacturing, mining and installation, and repair, this kind of post-secondary education—as opposed to a B.A.—is often the ticket to a well-paying and rewarding career.<sup>8</sup>



**FIGURE 3** The Teen employment gap: low income Black and Hispanic Teens have a much harder time finding jobs than affluent White Teens

Family Income (in 100s)	Black	Hispanic	White
< 20	<b>9.2</b>	15.4	30.3
20 - 40	14.7	<b>20.5</b>	33.8
40 - 60	23.2	24.9	37.4
60 - 75	29.6	24.1	37.2
75 - 100	25.0	33.6	<b>40.7</b>
100 - 150	32.8	35.5	37.8
> 150	4.6	19.7	35.1

Source: Data is for June, 2010 and taken from, "Vanishing Work Among U.S. Teens 2000-2010," and "How the U.S. Economic Output Recession of 2007-2009 led to the Great Recession in Labor Markets." Both published in July, 2010, by the Center for Labor Market Studies, Northeastern Univ.



## SETTING THE RIGHT TARGET

So what's the solution?

In 2009, President Barack Obama laid out a path to restoring America's international leadership in post-secondary attainment:

**"...tonight I ask every American to commit to at least one year or more of higher education or career training. This can be community college, a four-year school, vocational training, or an apprenticeship. But whatever the training may be, every American will need to get more than a high school diploma."**<sup>14</sup>

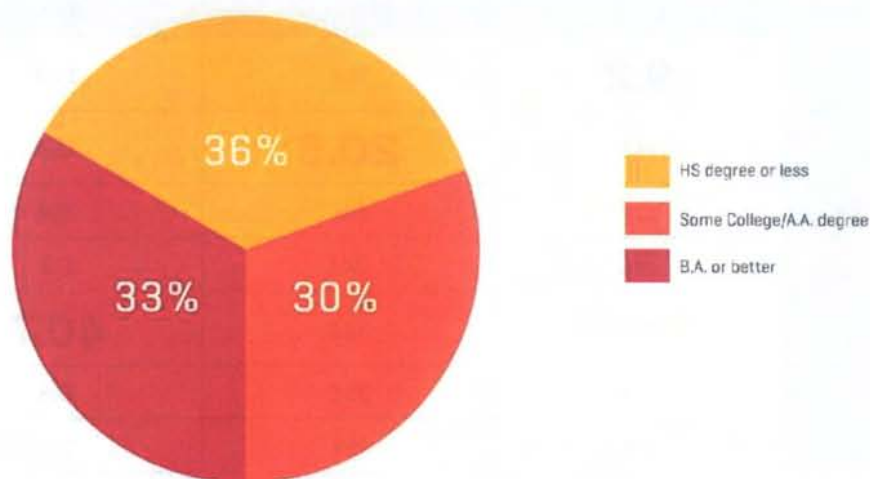
What is most noteworthy about the President's statement is the implicit recognition that if the U.S. is going to make dramatic progress in reclaiming its historic leadership position in post-secondary attainment, it is going to have to focus much more attention and resources on programs and pathways that do not require a bachelor's degree but do prepare young people for the kinds of middle-skill jobs outlined above. By calling attention to the central role that community colleges, vocational training programs and apprenticeships can play in moving us toward the goal of greater post-secondary attainment, the President is acknowledging

that the "college for all" rhetoric that has been so much a part of the current education reform movement needs to be significantly broadened to become a "post high-school credential for all."

As a phrase, there would be nothing wrong with "college for all" if merely uttering the phrase magically provided the "all" the means to actually finish college. Nearly 70 percent of high school graduates now go to college within two years of graduating. But as seen in Figure 5, **only about 4 in 10 Americans have obtained either an associate's or bachelor's degree by their mid-twenties.** Roughly another 10 percent have earned a certificate. Still, this is a sobering situation. Only 56 percent of those enrolling in a four-year college attain a bachelor's degree after six years, and less than 30 percent of those who enroll in community college succeed in obtaining an associate's degree within three years.<sup>15</sup>

These outcomes are even more dismal for young people of color: only 30 percent of African-Americans and fewer than 20 percent of Latinos in their mid-20s have an associate's degree or higher.<sup>16</sup> The impending retirement of the Baby Boom generation will only exacerbate this problem. Today's young adults are far more diverse than previous generations of Americans. By 2030 citizens

**FIGURE 4** College for All does not mean everyone needs a B.A. Even in this decade most jobs do not require a B.A.



Source: March CPS data, various years; Center on Education and the Workforce forecast of educational demand to 2018.

of color will make up 45 percent of the working-age population, up from just 18 percent in 1980. This will accentuate the impact of persistent racial gaps, including huge discrepancies in attainment.

Indeed, if current trends persist, the percentage of young adults with a post-secondary degree may actually drop, reversing a long history in which children have generally been better educated than their parents. This would be a stunning setback for a nation that led the entire world in educating its young for over a century.<sup>17</sup>

**Given these dismal attainment numbers, a narrowly defined “college for all” goal—one that does not include a much stronger focus on career-oriented programs that lead to occupational credentials—seems doomed to fail.** The College Board has set a goal of raising our college completion rate to 55 percent by 2025. This would require an annual increase of 1 percent for the next 15 years, a much faster rate of progress than our experience over the last 15 years would suggest is possible.<sup>18</sup>

But even if this campaign were to succeed—something we should all be rooting for—it would still leave us with

a very troubling question: **what about the other 45 percent of young Americans?** These are the same 45 percent of students who say they were bored in high school, who dropped out or never got past remedial courses in community college, and might say wistfully a few years after high school that they wished they had applied themselves more. They are the young people most likely to hit the wall after high school, running smack into the harsh realities of unemployment or dead-end, sub-living wage jobs. What is our strategy for equipping them with the credentials they need to be full participants in American society?

To answer this question, we must first ask why so many young people fall by the wayside, some as early as 9th grade, along the path to a college degree. We must also consider the breadth of this problem. Not all dropouts are from low-income families, nor do all attend so-called “dropout factories.” In fact, many are middle-achievers from middle-income families. If we are serious about designing a strategy to radically increase the proportion of young people who obtain a meaningful post-secondary credential, we must analyze root causes of the problem and search for models of success.





# III. LESSONS FROM ABROAD

What reason is there to think that a robust pathways network as described above is the best way forward? There's a continent full of empirical evidence demonstrating the efficacy of a system that connects work and learning beginning in high school.

## VOCATIONAL EDUCATION IN NORTHERN AND CENTRAL EUROPE

If you look at the U.S. secondary education system through a comparative lens, one big difference becomes immediately apparent: most advanced nations place far more emphasis on vocational education than we do. Throughout northern and central Europe especially, vocational education and training is a mainstream system, the pathway helping most young people make the transition from adolescence to productive adulthood. In Austria, Denmark, Finland, Germany, the Netherlands, Norway, and Switzerland, after grade 9 or 10 between 40 and 70 percent of young people opt for an educational program that typically combines classroom and workplace learning over the next three years. This culminates in a diploma or certificate, a "qualification,"

as it's called, with real currency in the labor market. In virtually all of these countries, vocational education also provides a pathway into tertiary education for those who choose to take it.

Upper secondary vocational education (or VET, as it is generally known) varies significantly in structure from country to country, but there are two basic models. The first, usually referred to as apprenticeship or the dual system, has students spend three or four days in paid company-organized training at the workplace, with the other day or two in related academic work in the classroom. Germany has the oldest and best-known apprenticeship system, which offers programs leading to recognized qualifications in about 350 different occupations. Switzerland also has a very highly regarded apprenticeship system. A second group of countries have opted for a model in which vocational education is mostly provided in school-based programs, although they all incorporate at least some work-based learning. These countries typically introduce students to a broad cluster of occupations (e.g. health care or IT) before narrowing the focus of training in the third year.<sup>24</sup>



From a U.S. perspective perhaps the most important distinction among these countries is the age at which students are separated into different tracks. Germany and Switzerland have separate middle or lower secondary schools based largely on the school's assessment of a student's academic potential. This is a practice we deplore, and it is no surprise that the students in the bottom track German middle schools fare the least well in the labor market. Finland and Denmark, on the other hand, keep all students in a common, untracked comprehensive school up through grade 9 or 10, at which point students and their families, not the school, decide which kind of upper secondary education they will pursue. We believe this model makes much more sense for the U.S. to consider, but it would mean that we would have to be willing to abandon our reliance on the various forms of tracking, subtle as well as overt, that pervade much of our education system through the elementary and middle school years.

Despite their highly unattractive early tracking practices, there is much to learn from the German and Swiss apprenticeship systems. In many ways, they exemplify the new 3 "R's" of much U.S. secondary school reform: rigor, relevance, and relationships. Thanks to high standards, those who complete a VET program have qualifications roughly equivalent to Americans who have earned a technical degree from a community college. As such, they're prepared for more advanced studies in institutions of higher education, such as polytechnics and universities of applied science. The German federal states, which regulate education, are now working to improve access for such students.

In all of these apprenticeship systems employer organizations play a major role. They take the lead in defining occupational qualifications, providing paid apprenticeships or other work-based learning opportunities and (in collaboration with educators and trade union partners) assessing student performance and awarding certificates. In Germany, for example, they pay about half of the expenses associated with the system, contributing roughly as much as the government. Why are they willing to make such a substantial investment?

Simply put, German employers believe that the best way to get a highly qualified workforce is to invest in the development of young workers, participate directly in their training and socialization at the workplace, and then hire those who have proven themselves to be productive at the end of the apprenticeship period. An added incentive is that apprentices can be hired for less than the standard wage, and terminated easily if they don't work out.<sup>25</sup> As a result, some studies suggest that the work and other benefits contributed by apprentices more than offset the costs to employers. No wonder roughly a quarter of German and Swiss employers participate in the dual system.

While there is significant variation among the northern and central European countries in the degree of employer ownership, all are characterized by much clearer linkages between labor market needs and educational programs, all offer programs leading to qualifications in a wide range of occupations (white collar as well as blue collar, high tech as well as trades), and all serve a broad cross-section of students. While they all make special efforts to incorporate at-risk students into their programs, in some cases offering employers special incentives to include such students, employers expect their trainees to have a solid foundation of academic skills and a strong work ethic. Consequently, these programs are not designed to serve those with a history of school failure. Rather, they are designed on the premise that many, perhaps most young people would prefer to learn from late adolescence on in an environment in which work and learning are integrated and in which there is a clear occupational goal in sight. And this approach is paying off in increased attainment rates.

By contrast, look at where the United States is ranked relative to other industrialized nations with regard to school and college completion. As Figures 7 and 8 indicate, we have lost enormous ground over the last 15 years. The problem is that while we have been standing still, other nations have leapfrogged us.



## MULTIPLE PATHWAYS: A BROADER VISION FOR SCHOOL REFORM

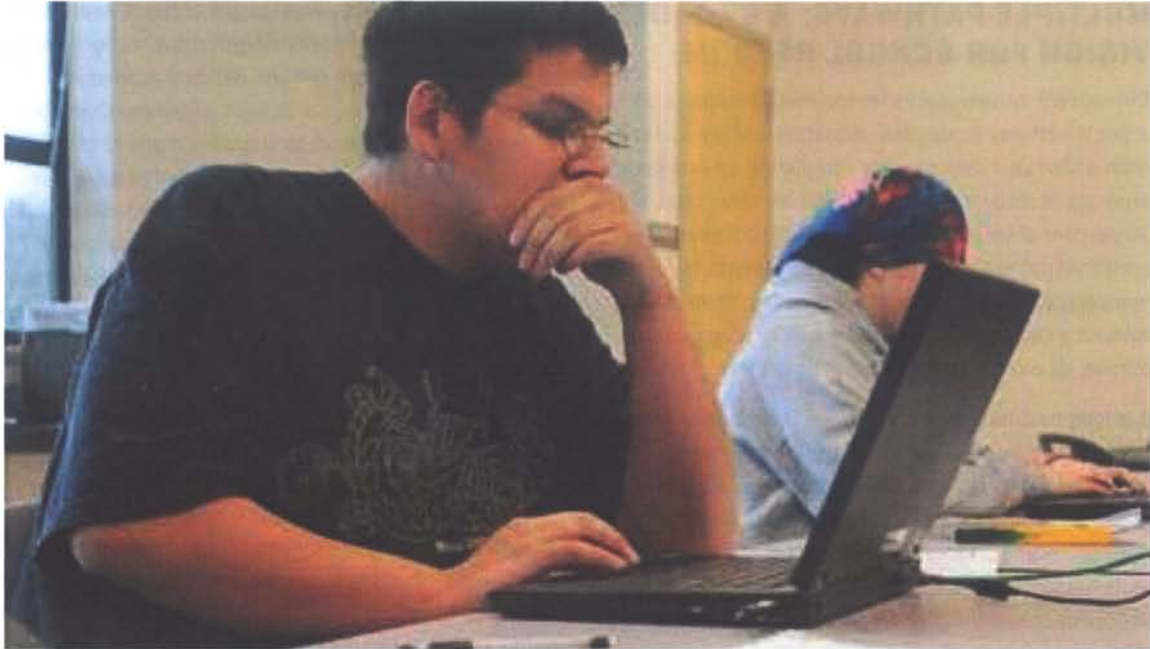
Our current system places far too much emphasis on a single pathway to success: attending and graduating from a four-year college after completing an academic program of study in high school. Yet as we've seen, only 30 percent of young adults successfully complete this preferred pathway, despite decades of efforts to raise the numbers. And too many of them graduate from college without a clear conception of the career they want to pursue, let alone a pathway for getting there.

It is long past time that we broaden the range of high-quality pathways that we offer to our young people, beginning in high school. The lessons from other countries strongly suggest that this might be the single most promising strategy for greatly increasing the percentage of young adults who earn a post-secondary degree or credential that prepares them to embark on a meaningful career.

Every high school graduate should find viable ways of pursuing both a career and a meaningful post-secondary degree or credential. For too many of our youth, we have treated preparing for college versus preparing for career as mutually exclusive options. At the same time, aspiring doctors, lawyers, or architects understand very well that college is in fact education for a career. They know the courses they need to qualify for advanced professional training, because the pathways to an occupational credential are clearly marked. In our view, the U.S. system would be greatly strengthened if the pathways to all major occupations were clearly delineated from the beginning of high school so that young people and their families could clearly see the patterns of course-taking and other experiences that would best position them to gain access to that field. In such a system, students would still retain freedom to change their minds, and embark on different courses. They would not be locked into one career at an early age. We are convinced that this pathways approach would significantly expand the numbers of young adults who earn a post-secondary credential in a timely fashion. In the process, it would expand both their earning potential and employment opportunities.

The recent adoption by most states of the "Common Core" standards represents long-overdue recognition of the need for a more uniform national academic currency. The challenge is to build within the Common Core enough differentiation in grades 11 and 12 that young people opting for occupations that require less formal academic training can take the initial steps toward viable careers. Students who are bored and at risk of dropping out need to be engaged more effectively. They need to know that there are navigable pathways leading to rewarding careers in the mainstream economy. Our hope is that states will recognize the importance of providing such options and not make the mistake of mandating a narrow common college prep curriculum for all. Certainly, it is absolutely essential to ensure that all students leave high school with a solid enough foundation of core literacy and numeracy skills to keep on learning. However, the course-taking requirements for entry into the most demanding four-year colleges should not be imposed on students seeking careers with fewer academic requirements. Indeed, there is evidence that imposing such requirements can be counterproductive. Many of the states that have sharply raised graduation requirements, including math and science requirements, have experienced a decrease in high school completion rates.<sup>28</sup>

We also need to elevate the critical importance of relevant work experience in a successful transition from adolescence to adulthood. The workplace is clearly the place to "try on" or test out a career choice. It's also by far the best venue in which to learn the "21st century skills" so critical to success in today's economy. And work-linked learning can be extraordinarily powerful in engaging students who are bored or turned off by conventional classroom instruction. Yet in comparison to many other advanced countries, America has largely neglected this highly effective learning method. We need to revolutionize our approach. Students should have plentiful opportunities to participate in work-linked learning—ranging from job shadowing to internships—in secondary school. In college, we need to make a far more concerted effort to link the jobs most students hold to their programs of study, so that work and learning will be mutually reinforcing. And for young adults not in college, we need to provide employment opportunities, ideally



through programs that encourage further education. None of these steps will be easy in the current Great Recession. But youth who are deprived of meaningful work experiences often pay a permanent price in reduced employment prospects. Investments in work experiences for young adults will produce strong future returns.

Even as we advocate this multiple pathways approach, we do not mean to downplay efforts to improve academic instruction in our schools, which has been the central focus of much recent school reform. Given the dismal level of literacy and math skills among many high school students, the need for these efforts is undeniable. And there's encouraging evidence that when school leaders focus on improving the quality of instruction—and addressing the learning needs of individual students—they can make impressive progress in closing the achievement gap, and expanding opportunities for low-income and minority students. This work clearly must be part of any comprehensive effort to meet the pathways challenge.<sup>29</sup>

There are already pockets of excellence in career and technical education in many American states and communities. Cutting-edge career and technical education (CTE) bears little relationship to the old vocational education programs that were often little more than dumping grounds for students who couldn't cut it in college-prep. Today's best CTE programs do a better job of preparing many students for college and career than traditional academics-only programs. And as the examples we highlight on page 27 illustrate, there is a growing movement to create high-quality "21st century" CTE programs.

Similarly, graduates of the best community college programs often earn more, and have a far clearer sense of direction, than some of their counterparts with B.A.'s. Indeed, some graduates of four-year colleges return to community college for precisely this reason. And the innovations aren't limited to educational institutions. The nation's registered apprenticeship programs are a well-kept secret that provide an extremely effective pathway to jobs in careers ranging from construction to healthcare. The modern military does an extraordinary job of helping recruits, few of whom are affluent,



successfully transition to adulthood. And in 2009, the Edward M. Kennedy Serve America Act was signed into law. It increases both the number and range of opportunities to serve in AmeriCorps, and includes an increased education award to encourage volunteers to continue their education.

But there are three big barriers that currently prevent these pathways from achieving their potential. First, though career counseling is an essential component of any effective pathways system, America's current system of career guidance and counseling is wholly inadequate, and many adolescents receive virtually no useful guidance. In our middle and high schools, the average ratio of students to counselors is nearly 500 to 1, a load that would strain even the most dedicated professional. Moreover, many counselors are more interested in students' pressing personal, psychological and social problems, and do not have the expertise to provide high-quality career guidance.<sup>30</sup>

The situation is even more dire in post-secondary institutions that serve large numbers of low-income students. It isn't unusual for the student-counselor ratio in community colleges to reach 1,000 to 1, meaning that most students get little or no help.<sup>31</sup> And young adults who have left school have even less access to counseling. The price we pay for this neglect is staggering. Inadequate guidance is a major reason why so many students end up in classes they find boring and irrelevant, sentiments that are often a precursor to dropping out.







## Several States Offer High School Diploma Options to Address Students' Needs and Future Goals

### *at a glance*

While many states have taken steps to strengthen academic standards, eight states with high school graduation requirements similar to those recently adopted in Florida also allow students the option of earning a diploma with less rigorous requirements. In general, these less rigorous options give students who cannot meet the state's higher graduation standards the opportunity to earn a high school diploma rather than drop out of school. However, some states raised concerns that such a policy has the potential to undermine their efforts to raise student achievement.

In addition, 10 states offer diploma options designed to prepare high school students for the workforce. These diplomas enable students to choose among various academic pathways depending on their post-high school goals—entry into the workforce or postsecondary education. However, the workforce-ready diplomas currently used by these states can limit students' postsecondary education choices and might not fully prepare students for the current job market.

### Scope

As directed by the Florida Legislature, OPPAGA examined differentiated diploma options offered by other states, which are intended to prepare students for entry into the workforce or college after high school.<sup>1, 2</sup> This report answers two primary questions.

1. What states with graduation requirements similar to Florida's also offer students a less rigorous diploma option?
2. What states offer diploma options to prepare students for the workforce and how are these programs structured?

### Background

In 2010, the Florida Legislature increased high school graduation requirements to better prepare students for college and the workplace. Under the new requirements, students must earn four credits in mathematics, one of which must be Algebra I or a higher level course. In addition, beginning with students entering the 9th grade in the 2010-11 school year, one of the four credits in mathematics must be Geometry or a series of equivalent courses as approved by the State Board of Education. Beginning with students entering the 9th grade in the 2012-13 school year, one of the four credits must be Algebra II or an equivalent series of board-approved courses.

Students also must earn three credits in science. Beginning with students entering the 9th grade in the 2011-12 school year, one of the three credits in science must be Biology I or a series of board-approved equivalent courses. Beginning in the 2013-14 school year, students must earn one credit in Biology I, one credit in Chemistry or Physics or a series of board-approved equivalent courses, and one credit in an equally rigorous course.<sup>3</sup>

<sup>1</sup> Section 14, Chapter 2010-022, *Laws of Florida*.

<sup>2</sup> Many states offer alternative diplomas for students, such as those with severe disabilities, who are unable to meet basic academic requirements. These diploma options are not included in the scope of this report.

<sup>3</sup> Eighteen of Florida's 67 school districts have established additional graduation requirements beyond the state requirements for a standard high school diploma.



The law also requires students to pass statewide, standardized end-of-course assessments in three courses to earn course credit. This requirement is applicable to students entering the 9th grade in specified school years: Algebra I in 2011-12, and Biology I and Geometry in 2012-13.<sup>4</sup>

**Other states are also increasing graduation requirements.** Florida's move to more rigorous graduation requirements is consistent with a national trend to increase academic standards and graduation requirements, improve assessments, and strengthen accountability to better prepare students for college and the workforce. Florida is one of approximately 35 states that comprise the American Diploma Project, a network dedicated to making sure that every high school graduate is prepared for college or a career.<sup>5</sup> As part of this effort, in June 2010, these states and other key education stakeholders approved Common Core State Standards to provide clear, common expectations in English and mathematics to provide K-12 students with the knowledge and skills they need to succeed in education and training after high school. The standards define what students should know and be able to do at each grade level. As of November 2010, 40 states have adopted the Common Core Standards.

One of the key concepts underlying these efforts is the belief that all students need essentially the same preparation regardless of whether they plan to attend college or enter the workforce after high school. This perspective is based on feedback from business community representatives and postsecondary institutions, as well as recent national studies that conclude that employers and colleges require high school graduates to have similar skills and abilities in areas including communication, mathematics, and critical thinking.<sup>6</sup> The move towards common high

school standards is further supported by national workforce data that shows jobs in all sectors of the economy increasingly require at least some postsecondary education. It is estimated that by 2018, 59% of jobs in Florida will require postsecondary education.<sup>7</sup>

States are using different approaches and timelines to implement the Common Core State Standards. A key issue is whether to enable students to earn a diploma by meeting different course requirements, particularly those students who cannot meet the more rigorous standards or who plan to go directly into the workforce rather than college after high school.

## Questions and Answers —

### *What states with graduation requirements similar to Florida's also offer students a less rigorous diploma option?*

Eight of the 12 states with high school graduation requirements similar to Florida's enable students to earn a diploma with less rigorous requirements. In general, these states' intent is to give students who cannot meet the higher graduation standards an opportunity to earn a high school diploma rather than drop out of school. Although each state's less rigorous requirements work differently, all eight states require parents and/or school officials to approve this option before students can pursue the less rigorous diploma.

**Twelve states have high school graduation requirements similar to those Florida enacted in 2010.** These states have added at least three of Florida's four new courses to their graduation requirements. However, as shown in Exhibit 1, the 12 states vary in their similarity to Florida's course requirements and implementation timetable. Texas and Louisiana are most similar to Florida in terms of course requirements. The time period for implementing these new graduation requirements varies among the states. For example, Indiana's requirements were in full effect for the 2010 graduation class, while Florida's new requirements will not become fully effective until 2017.

<sup>4</sup> Performance on end-of-course assessments must constitute 30 percent of the student's final course grade for students entering the 9th grade in specified school years: Algebra I in 2010-11, and Biology I and Geometry in 2011-12.

<sup>5</sup> The American Diploma Project was launched in 2005 by Achieve, an independent, bipartisan, non-profit education reform organization. Achieve was created in 1996 by the nation's governors and corporate leaders to make college and career readiness a national priority.

<sup>6</sup> *The Condition of College & Career Readiness 2010*, ACT [www.act.org/research/policymakers/cccr10/about.html](http://www.act.org/research/policymakers/cccr10/about.html).

<sup>7</sup> Anthony P. Carnevale, June 2010. *Help Wanted: Projections of Jobs and Education Requirements Through 2018 (Florida Profile)*, The Georgetown University Center on Education and the Workforce.



Exhibit 1

Twelve States' Most Rigorous Graduation Requirements Are Similar to Those Recently Adopted in Florida

State	Math		Science			Fully Effective for Students Graduating
	Geometry	Algebra II	Biology	Chemistry	Physics	
Florida (new)	✓	✓	✓	○	○	2017
Indiana <sup>1</sup>	✓	✓	✓	○	○	2010
Michigan	✓	✓	✓	○	○	2011
Texas <sup>2</sup>	✓	✓	✓	✓	✓	2011
Louisiana	✓	✓	✓	✓	●	2012
Alabama	✓	✓	✓	●	●	2013
Hawaii <sup>3</sup>	✓	✓	○	○	○	2013
North Carolina <sup>1</sup>	✓	✓	✓	●	●	2013
Tennessee	✓	✓	✓	○	○	2013
Arkansas	✓	✓	✓	○	○	2014
South Dakota	✓	✓	✓	○	○	2014
Virginia <sup>3</sup>	-- <sup>4</sup>	-- <sup>4</sup>	○	○	○	2014
Minnesota	●	✓	✓	○	○	2015

Legend: ✓ - Required ● - Not Required ○ - Choose among these options

<sup>1</sup> Indiana and North Carolina students may fulfill the math requirements by completing Integrated Math I, II, and III; education officials in both states indicated that this math sequence is equivalent to Algebra I, Algebra II, and Geometry.

<sup>2</sup> Texas graduation requirements are effective for students entering the 9<sup>th</sup> grade in 2007 and thereafter.

<sup>3</sup> For Hawaii and Virginia, which have multiple diplomas, we compared the most rigorous diploma requirements to the new requirements Florida enacted in 2010. However, these two states have not established the state's most rigorous requirements as their default or preferred diploma.

<sup>4</sup> Virginia's most rigorous diploma option requires that students take at least three courses among Algebra I, Geometry, Algebra II, or other math courses above the level of Algebra II.

Source: Review of available published reports, other states' statutes and rules, and interviews and correspondence with state education officials.

**Most states with graduation requirements similar to Florida's also allow students to earn a diploma by meeting less rigorous requirements.**

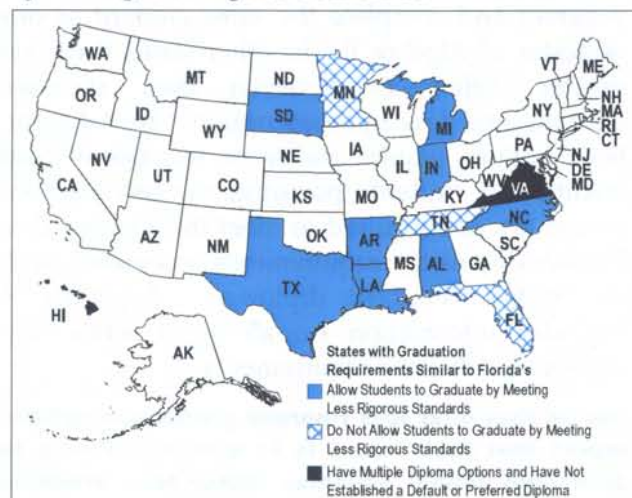
Florida's new high school graduation requirements apply to all students. However, as shown in Exhibit 2, of the states with rigorous requirements, eight allow students who cannot meet the states' graduation standards to earn a diploma by meeting less rigorous standards.<sup>8,9</sup> Like Florida, an additional two states—Minnesota and Tennessee—do not have such provisions. Although Hawaii and Virginia have a less rigorous diploma option, they have not established the state's more rigorous option as their default or preferred diploma, so we did not include them in our analysis.

<sup>8</sup> We identified the eight states using available published reports, other states' statutes and rules, and follow-up interviews and correspondence with other states' education official to confirm our conclusions.

<sup>9</sup> These eight states meet one of two criteria: the state has one standard diploma with similar requirements as Florida's but permits a different, less rigorous curriculum for a limited number of students who cannot meet its higher graduation requirements or the state has more than one diploma option, but officially has chosen the diploma with standards similar to Florida's as the default diploma intended for the vast majority of students.

Exhibit 2

**We Identified Eight States with Graduation Requirements Similar to Florida's that Also Allow Students to Graduate By Meeting Less Rigorous Standards**



Source: Review of available published reports, other states' statutes and rules, and interviews and correspondence with education officials in selected states.



All eight states permit students to choose a less rigorous curriculum only with the involvement of their parents and/or school. In Louisiana, for example, parents must sign a document stating that they explicitly acknowledge that choosing the alternative curriculum may make the student ineligible for admission to a four-year public college or university. This shifts responsibility to students' parents for making a decision that could put students at a disadvantage, particularly if they decide later in high school that they want to go on to college. Other states that require parental sign-off include Alabama, Indiana, and Texas. Some states such as Arkansas, Michigan, and North Carolina require parents and/or school officials to be involved in determining the specific requirements that students must meet to graduate.

In addition, states vary widely in the course requirements associated with their less rigorous options. For instance, the primary difference between Michigan's standard diploma and its less rigorous option relates to the state's Algebra II requirement. Michigan students who are unsuccessful in passing the course requirement for Algebra II may elect to take the course over two semesters, complete a course the state's Department of Education deems to be equivalent to Algebra II, or enroll in a career education program and complete the same content as one semester of Algebra II. In other states there are greater differences between their standard diploma and less rigorous option. In Arkansas, both options require the same number of total credits, but students pursuing the less rigorous option are not required to meet the Algebra II or Physics/Chemistry requirements associated with the state's standard diploma. Appendix A provides information on all eight states' less rigorous graduation requirements.

**States that offer less rigorous graduation options report that their intent is to enable students to earn high school diplomas rather than dropping out.** Our interviews with education officials in other states identified several arguments for and against allowing students to graduate by meeting less rigorous requirements. States mainly enacted such provisions to give students who cannot meet

requirements for a standard diploma the opportunity to earn a high school credential rather than drop out of school. In contrast, officials in some states without less rigorous graduation options raised concerns that such policies would undermine their efforts to raise student achievement, particularly for minority students and students from poor families. In addition, officials expressed concern that less rigorous graduation options might be considered by the general public and businesses as 'second class' or substandard to the state's more rigorous standard diploma(s).

Research and state enrollment trends do not appear to support concerns that increasing academic standards affect dropout rates. Research studies have shown that higher graduation standards do not necessarily lead to increased dropout rates. A widely-cited study of the San Jose Unified School District, a community with broad ethnic and socioeconomic diversity, provides information on this issue.<sup>10</sup> In the 1990s, the district adopted the University of California's entrance requirements as its graduation requirements, giving it the most rigorous requirements of all California school districts. The district reports that its graduation rates have remained steady since adopting these requirements, while both student achievement and SAT scores have risen.

Similarly, enrollment trends in Indiana and Michigan suggest that more rigorous standards do not reduce the percentage of students remaining enrolled in high school from year-to-year.<sup>11</sup> In Indiana, students graduating in 2010 were the first class to complete high school under standards similar to those recently adopted in Florida. Data for the 2010 class show that 94% of the students who were enrolled in the 8th grade in fall 2005 were enrolled in the 11th grade in 2008-09. While this represents a slight drop over the previous

<sup>10</sup> Murray, L. (2004). The San Jose Unified School District Story: Implementing a College-Ready Curriculum for All, May 28, 2010, [www.all4ed.org/files/Murray\\_PIL.pdf](http://www.all4ed.org/files/Murray_PIL.pdf).

<sup>11</sup> Although enrollment trends provide an indicator of student intent, they do not necessarily measure final graduation and dropout rates. The actual rates may increase, decrease, or remain the same after a full cohort of students has been through high school under the higher graduation requirements.



year, it still is the second highest retention figure recorded in Indiana during the last 20 years.

In Michigan, initial concerns that the state's more rigorous math requirement would increase dropout rates appear to be unfounded. The first students fully affected by the new requirement were in 8th grade in the fall of 2006. At the beginning of 2009, 95.5% of these students were still in high school. This is the highest percentage in 7 years and the second highest percentage the state has reported in the 20 years for which data is available.

There is limited data regarding whether allowing students to graduate by meeting less rigorous standards undermines states' efforts to raise student achievement overall or among certain of students. Early data from one state (Texas) appears not to support this concern.<sup>12</sup> Based on the most recent enrollment data available, the percentage of African-American and Hispanic students opting out of Texas' recommended high school program and enrolling in the minimum program decreased only slightly between 2007-08 and 2008-09. However, more information is necessary to make a conclusion about the effect of such policies on states' efforts to raise student achievement.

### ***What states offer diploma options to prepare students for the workforce and how are these programs structured?***

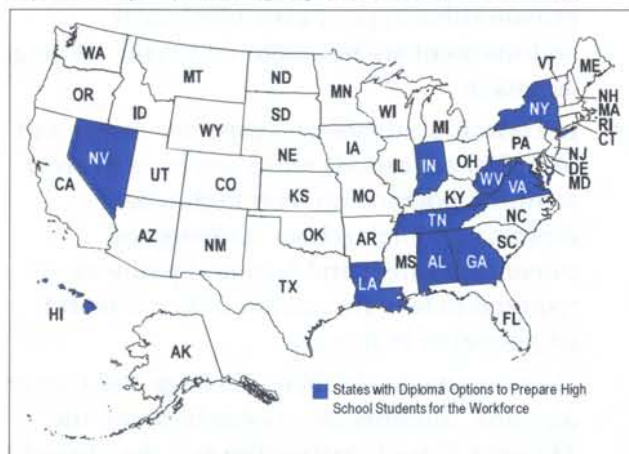
Ten states offer diploma options to prepare high school students for the workforce. These states generally require students to meet similar academic course requirements for graduation regardless of the diploma option they choose. Although Florida does not offer different diploma options for its standard diploma, students have several opportunities to prepare for the workforce.

### **Ten states offer students diploma options designed to prepare them for the workforce.**

Most states provide a standard diploma to all high school students regardless of their plans after graduation. However, as shown in Exhibit 3, some states (10) have developed diploma options that recognize students who meet specific requirements designed to ensure their readiness to enter the workforce after graduation.<sup>13, 14</sup> Most of these states (8) recognize such students through an endorsement or certification on their standard diploma. Two states—Indiana and Virginia—offer students a separate career technical diploma, distinct from a standard high school diploma.

#### **Exhibit 3**

#### **We Identified 10 States that Offer Their Students Diploma Options to Signify Workforce Readiness**



Source: Review of available published reports, other states' statutes and rules, and interviews and correspondence with education officials in selected states.

While these states vary in the specific requirements that students must meet to earn a workforce-ready diploma, in most cases there is considerable overlap in course requirements among their diploma options. In general, students pursuing a workforce-ready diploma must successfully complete three to four vocational-technical courses in place of other

<sup>12</sup> In Texas, all high school graduates are awarded the same type of diploma, but students pursue one of three program options: the Minimum High School Program, the (default) Recommended High School Program, or the Distinguished Achievement High School Program.

<sup>13</sup> In addition, five states (Alabama, Georgia, Kentucky, Nevada, and Virginia) provide distinct diplomas or special recognition for students who take coursework above that required for the standard diploma to prepare for college.

<sup>14</sup> While students in most states can take career and technical courses, these ten states have established pathways or sequences of courses specifically designed to ensure students' workforce readiness.



course requirements. Most often, these vocational-technical courses replace foreign language requirements associated with the states' standard or college-ready diplomas. The examples of states' workforce-ready diploma programs below illustrate these course requirements. (See Appendix B for details on the 10 states' programs.)

- Alabama offers two types of career/technical endorsements on diplomas, both of which require 24 credits for graduation. Students who earn three career and technical education credits can receive a high school diploma with a career/technical endorsement. If these students also successfully complete Algebra II, they are eligible for an advanced career/technical endorsement. Students who pursue either type of career/technical endorsement are not required to take a foreign language.
- In Hawaii, students who earn two career and technical education credits can have a career technical notation on their high school diplomas.<sup>15</sup> High school students not pursuing a career and technical pathway are required to take two credits either in world languages or in fine arts.
- In Louisiana, to obtain the College and Career diploma, students can choose between the 24-credit 'Core 4' curriculum and the 24-credit 'Basic Core' curriculum. The core requirements in English are the same for the two curricular pathways. However, students following the Core 4 pathway must take four primary credits in a career and technical education area of concentration and two related elective credits, one of which must be in a computer/technology course. Students who pursue this diploma option are not required to take a foreign language.
- Indiana students who complete 47 semester credits (equivalent to 23.5 academic credits in

most other states) that include 8 to 10 career/technical semester credits receive a 'Core 40' diploma with technical honors.<sup>16</sup> The technical honors diploma requires the same core courses as the state's academic honors diploma but requires no foreign language credits and two fewer math credits.

- Virginia will begin offering a 22-credit standard technical diploma as well as a 26 credit advanced technical diploma in 2011-12.<sup>17</sup> Students who pursue the standard technical diploma option will be required to earn four credits in career and technical education. Students who select the advanced technical diploma will be required to take three career and technical education credits as well as a foreign language.

One of the 10 states with a workforce-ready diploma (Nevada) allows students to meet its graduation requirements by completing career education courses that integrate math and/or science course content. However, several states that do not offer workforce-ready diplomas permit students to substitute career and technical education for some math and/or science courses under certain circumstances.<sup>18</sup> For example, Michigan permits a student to satisfy Algebra II course requirements by completing an entire career and technical education program the state Department of Education approves as having appropriate embedded mathematics content.

**Workforce-ready diplomas offer several advantages but have some drawbacks.** Education officials in other states indicated that the primary advantage of workforce-ready diplomas is that they provide students the opportunity to choose among various academic pathways depending on whether their post-high school goals are entry into the workforce or postsecondary education. In addition, because the course requirements of workforce-ready

<sup>15</sup> Beginning with the 2012-13 school year (graduating class of 2013), the two credits must be within a single career pathway. Hawaii students can choose between a 25 credit Board of Education recognition diploma and a 24 credit diploma. The 24-credit diploma requires 3 credits in math and does not require students to complete Algebra II.

<sup>16</sup> In Indiana, 'credit' means satisfactory completion of a course that meets a minimum of 250 minutes of instruction per week for one semester for a school operating on a traditional schedule.

<sup>17</sup> Virginia students can also choose a 22-credit standard diploma or a 26-credit advanced studies diploma.

<sup>18</sup> These states are Arizona, Illinois, Kentucky, Michigan, New Mexico, Ohio, Oklahoma, Oregon, Rhode Island, South Dakota, Utah, Washington, and Wisconsin.



diplomas substantially overlap the requirements for the states' standard and college-ready diplomas, students are able to switch between types of diplomas and still graduate within four years. Further, the overlapping course requirements avoid unduly limiting students' postsecondary education choices.

However, students who pursue workforce-ready diplomas may not meet the entrance requirements of many universities. This could occur because the workforce-ready option often does not require students to take a foreign language in high school. Public universities, including those in Florida, generally require at least two years of a foreign language.<sup>19</sup>

In addition, the differentiated diploma model used in most states may not fully prepare students for many occupations. Students who obtain workforce diplomas may still require additional education/training before they can enter some occupations, as an increasing number of jobs require at least some postsecondary training.

**Although Florida does not offer a workforce-ready option for its standard diploma, students have opportunities to prepare for the workforce.** Florida students who wish to move more quickly toward workforce readiness may graduate under the state's three-year accelerated diploma program.<sup>20</sup> The state's three-year, 18-credit career preparatory diploma is designed to prepare students for entry into a technical center, Florida college for career preparation, or the workforce.

Compared to the state's four-year high school diploma, the three-year accelerated career preparatory diploma requires fewer credits, focuses more on academic courses, and requires students to earn specific credits in a single vocational, career, or technical education program. Students pursuing this option must complete three credits in a single vocational/career education program and one elective credit, three

credits in a single career/technical certificate dual enrollment program and one elective credit, or four credits in vocational/career education (including three credits in one sequential career and technical education program). While Florida's new graduation requirements continue the three-year accelerated diploma program, it has no option for the standard four-year diploma to signify a student's workforce readiness.

Students wishing to quickly enter the workforce can also participate in Florida's career and professional academies, which are designed to link student learning with potential career outcomes. Career and professional academies differ from traditional academic and vocational programs in that they simultaneously prepare students for college and the workforce. These programs provide students with qualifications that can be used to either pursue a college education or enter directly into the workforce upon graduation, whichever is most appropriate for the individual student.<sup>21</sup> When students receive an industry certification based on the program at a career and professional academy and graduate with a standard high school diploma, the school district receives incentive funding designed to encourage districts to provide more programs that result in industry-certified credentials. As of January 2011, all of Florida's school districts had at least one career and professional academy. Many districts offered multiple career and professional academies; statewide, there were 1,298 career and professional academies.

In addition, Florida students may prepare for the workforce by meeting requirements defined in statute for the Florida Ready to Work Certification Program.<sup>22</sup> Florida law provides that students who receive certain workforce certifications or credentials receive a designation on their standard high school diplomas.<sup>23</sup>

<sup>19</sup> While foreign language is required for Florida public university entrance, it is only recommended for entrance to the state's public colleges.

<sup>20</sup> Students may also pursue the 3-year, 18-credit college preparatory program which is designed to prepare them for entry into a postsecondary education institution.

<sup>21</sup> Section 1003.493, *Florida Statutes*.

<sup>22</sup> This program may be conducted in public middle and high schools, community colleges, technical centers, one-stop career centers, vocational rehabilitation centers, and Department of Juvenile Justice educational facilities. Section 1004.99, *F.S.*

<sup>23</sup> Section 1003.4285, *F.S.*



## Appendix A

# Eight States with Graduation Requirements Similar to Florida’s Also Allow Students to Graduate by Meeting Less Rigorous Standards

Table A-1 shows the eight states that offer high school students the option to complete a less rigorous curriculum than what is currently or will be required for the highest standards or default diploma. These eight states meet one of two criteria: (1) the state has one standard diploma with requirements as rigorous as Florida’s, or (2) the state has more than one diploma option, but officially has chosen the diploma with standards similar to Florida’s as the default diploma intended for the vast majority of students. In addition, all eight states allow a limited number of students who cannot meet their higher graduation requirements to graduate high school by meeting less rigorous standards.

Most of these states require four credits (referred to in some states as ‘units’ or ‘units of credit’) in English and either three or four units in mathematics, science, and social studies. Some states require the same total number of credits for graduation under the less rigorous curriculum as required for the highest standards diploma (typically 21 to 24), but students are allowed to substitute less demanding courses.<sup>24</sup> Other states require fewer total credits in the less rigorous curriculum. In all eight states, parents must confer with a school administrator and sign a waiver before their child is permitted to pursue a less rigorous curriculum.

**Table A-1**  
**Eight States with Graduation Requirements Similar to Florida’s Also Allow Students to Graduate by Meeting Less Rigorous Standards**

State	Core Requirements for Default Diploma <sup>1</sup>	Permissible Less Rigorous Requirements	Additional Comments
Alabama	Four credits each of English/language arts, mathematics (to include Geometry and Algebra II), science (to include Biology), and social studies	The total number of required credits (24) is the same. However, the less rigorous curriculum does not require Algebra II.	Parents must sign a form and consult with school administrators for their child to take the less rigorous curriculum.
Arkansas	Four and a half units of language arts, four units of mathematics (to include Algebra I, Geometry, Algebra II, and a fourth unit beyond Algebra II), three units in science (to include Biology and two additional physical sciences chosen from Physical Science, Chemistry, and Physics), and social studies	The total number of required credits (22.5) is the same. However, the less rigorous curriculum does not require Algebra II and a fourth unit of math beyond Algebra II nor Physics/Chemistry.	Parents can sign a waiver for their child to take the less rigorous curriculum.

<sup>24</sup> In Indiana, ‘credit’ means satisfactory completion of a course that meets a minimum of 250 minutes of instruction per week for one semester for a school operating on a traditional schedule.



State	Core Requirements for Default Diploma <sup>1</sup>	Permissible Less Rigorous Requirements	Additional Comments
Indiana	Eight credits of English/language arts, six credits each in mathematics (to include Geometry and Algebra II or Integrated Math I, II, and III), science (to include two credits in Biology; and two credits in Chemistry, Physics, or Integrated Chemistry-Physics), and social studies	Two fewer credits each in the areas of social studies, math, and science.	The student, the student's parent or guardian, and the student's counselor (or another staff member who assists students in course selection) must meet to discuss the student's progress. After reviewing the student's career and course plan, the student's parent or guardian can decide if the student will achieve greater educational benefits by completing the less rigorous curriculum or the standard curriculum. The school determines the career-academic course sequence for students pursuing the less rigorous curriculum.
Louisiana	Four units each of English, mathematics (to include Geometry and Algebra II), science (to include Biology and Chemistry), and social studies	The total number of required credits (24) is the same. The less rigorous curriculum requires one less credit each in science and social studies, and does not require Algebra II.	Students can choose the less rigorous option after two years with parental permission. Parents must acknowledge that choosing the alternative curriculum may make their child ineligible for admission to a four-year public college or university. Students may also choose the 23-credit Career Diploma which requires 16 academic credits and a sequence of 7 credits in career and technical education. This option does not require Algebra II, Geometry, or Chemistry.
Michigan	Four credits each of English/language arts and mathematics (to include Algebra II and Geometry), and three each in science (to include Biology and Chemistry or Physics) and social science	A student must attempt Algebra II before opting out. The student is still required to complete the equivalent of one semester of Algebra II, complete Algebra II in two courses, complete a course the state Department of Education deems to be equivalent to Algebra II, or enroll in a career education program and complete a course with the same content as one semester of Algebra II.	The state's less rigorous option allows an alternative curriculum that must be approved by the school counselor. Students must complete Algebra I and attempt Algebra II. Students can request the less rigorous curriculum in 9th grade.
North Carolina	Four credits each in English language arts, and mathematics (to include Geometry and Algebra II or a series of three integrated mathematics courses), and three each in science (to include Biology), and social studies	A principal may exempt a student from the prescribed math sequence and allow specified substitutions.	Alternate math sequence allowed in rare instances. The principal and high school guidance counselor have some leeway and may give flexibility to students who may not be able to complete all the math requirements.
South Dakota	Four units of English/language arts and three each in science (to include Biology, and Chemistry or Physics), mathematics (to include Geometry and Algebra II), and social studies	Students can choose not to take Algebra II or Geometry, but not both. Students may also be excused from Chemistry or Physics, but must still have three units of lab science.	A student may be excused if the student's parent or legal guardian and school counselor or administrator agrees and the excuse is documented.
Texas	Four credits of English language arts, mathematics (to include Algebra II and Geometry) and science (to include Biology; Chemistry, and Physics), and three credits in social studies	One less credit in math, two less credits in science, and one less credit in social studies. Students pursuing the less rigorous curriculum are not required to take Algebra II and must take Integrated Physics/Chemistry (IPC). The student may opt to take Physics or Chemistry instead of IPC but must take the second of these two courses as an elective credit.	The student, the student's parent or other persons standing in parental relation to the student, and a school counselor or school administrator must agree that the student should be permitted to take courses under the less rigorous curriculum.

<sup>1</sup> We defined core courses as math, science, English/language arts, and social studies.

Source: Review of published reports, other states' statutes and rules, and interviews and correspondence with education officials.

## Appendix B

# Ten States Offer High School Students Diploma Options to Signify Workforce Readiness

Table B-1 shows the 10 states that offer high school students diploma options that signify workforce readiness. While students in most states can take career and technical courses, these ten states have established pathways or sequences of courses that are specifically designed to ensure students' workforce readiness. Most of these states require four credits (called 'units' in some states) in English and either three or four credits in mathematics, science, and social studies. The total number of required credits ranges from 22 to 26, while the number required in career or technical courses varies from 2 to 6 credits.<sup>25</sup>

**Table B-1**  
**States Vary in the Required Core Courses, the Number of Career Credits, and the Total Credits Required for a Career-Ready Credential**

State	Required Core Courses for the Career-Ready Credential <sup>1</sup>	Required Number Career Units/Credits	Total Required Units/Credits	Additional Comments
Alabama	Alabama High School Diploma with Career/Technical Endorsement: four credits each of English Language Arts, mathematics (to include Geometry and Algebra I), science (to include Biology), and social studies	3	24	Alabama also offers a diploma with an advanced academic endorsement with the same core requirements as the Advanced Career Technical but with the requirement of two credits in foreign language.
	Alabama High School Diploma with Advanced Career/Technical Endorsement: four credits each of English Language Arts, mathematics (to include Geometry, Algebra I, and Algebra II), science (to include Biology), and social studies	3	24	
Georgia	Four units each of English/Language Arts, mathematics (to include Mathematics I, II, and III), and science (to include Biology, Physical Science or Physics, and Chemistry, Environmental Science or Earth Systems), and three credits in social studies	3	23	Georgia also offers a University System Entry pathway with the same core requirements as the career pathway but with the requirement of two units of the same modern language.
Hawaii	Four credits each of English and social studies, and three in mathematics and science	2	24	
Indiana	Eight credits of English/Language Arts, six credits each in mathematics (to include Geometry and Algebra II or Integrated Math I, II, and III), science (to include Biology and Chemistry or Physics or Integrated Chemistry-Physics), and social studies. (One credit in Indiana is one-half of an academic credit in most other states.)	8-10 (equivalent to 4-5 academic credits in most other states)	47 (equivalent to 23.5 academic credits in most other states)	The Core 40 Technical Honors Diploma requires the same core courses as the state's academic honors diploma in English, social studies and science, but requires two fewer credits in math and no world language credits. Students can also pursue the Core 40 Diploma which encourages students to complete a career-academic sequence.

<sup>25</sup> In Indiana, 47 semester credits is equivalent to 23.5 academic credits in most other states.



State	Required Core Courses for the Career-Ready Credential <sup>1</sup>	Required Number Career Units/Credits	Total Required Units/Credits	Additional Comments
Louisiana	Four units each of English, mathematics (to include Geometry and Algebra II), science (to include Biology and Chemistry), and social studies	6	24	Students may also choose the 23-credit Career Diploma which requires 16 academic credits and a sequence of 7 credits in career and technical education. This option does not require Algebra II, Geometry, or Chemistry.
Nevada	Four credits each of English, three in mathematics, and two each in science and social studies	2	22.5	
New York	Three units each of English Language Arts and social studies, two units each in mathematics and science, and three and a half or four units (depending on approach) of CTE/Integrated Academic, CTE/Specialized Courses, or CTE/Combined Integrated and Specialized Courses	3.5	22	
Tennessee	Four credits each of English and mathematics (to include Geometry and Algebra II), three in science (to include Biology, and Chemistry or Physics) and social studies	3	22	
Virginia	Standard Technical Diploma: Four credits in English and three credits each in mathematics, science, and history/social science	4	22	
	Advanced Technical Diploma: Four credits each in English, mathematics, science, and history/social science	3	26	
West Virginia	Four credits of reading and English Language Arts, mathematics, and social studies, and three in science (to include Biology, Chemistry, and Physics)	4	24	

<sup>1</sup> We defined core courses as math, science, English/language arts, and social studies.

Source: Review of published reports, other states' statutes and rules, and interviews and correspondence with education officials.



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# SREB

## Recognizing Academic Achievement in Career/Technical Education



### Conditions for Awarding Academic Credit for Career/Technical Courses

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# Recognizing Academic Achievement in Career/Technical Education

## Foreword

During the 30 years since the U.S. Department of Education's landmark report, *A Nation at Risk*, exclaimed the urgent need to reform our public school systems, we have worked fervently to strengthen the high school curricula and raise the level of expectations for all students. Yet, we have not seen a big enough payoff from these efforts. As a nation, we have not regained the top position among industrialized countries in achievement and graduation rates. About a fourth of our nation's high school students do not graduate. While we have increased the number of academic credits and higher-level academic courses required for graduation, we have not experienced a corresponding rise in academic achievement. Too many students are unprepared for the rigor of postsecondary study. We have high dropout rates because too few students are engaged in meaningful and rigorous learning.

To reach the regional goals for 2020 adopted by the SREB Board of having 90 percent of students graduate from high school in four years and having 80 percent graduate ready for college and careers, we must move beyond a "one size fits all" approach in getting them prepared. We need to create optional pathways through which students can acquire college-ready academic skills, as well as work-ready academic, technical and employability skills.

Currently the primary approach states use to achieve these goals is to beef up curricula by requiring more high-level traditional academic courses in English, mathematics, science, social studies and foreign languages. This single approach results in many students receiving a diet of weak academic courses that fail to engage them emotionally and intellectually in learning. Thus, many students leave high school prepared neither for college nor careers.

An SREB Board commission chaired by former Georgia Governor Sonny Perdue favored creating optional pathways that enable students to acquire cognitive, academic, and technical knowledge and skills, plus the habits and behaviors that make for successful students, employees and citizens. In its report, *The Next Generation of School Accountability: A Blueprint for Raising High School Achievement and Graduation Rates in SREB States*, SREB called for breaking down the barrier between traditional academic courses and career/technical education (CTE) to add value to learning and other college- and career-ready skills through authentic problems, projects and activities that are meaningful to students.

Learning in context naturally helps students build their ability to transfer skills to new situations, and to deepen their understanding of academic knowledge. Career/technical (CT) course work that



We need to create optional pathways through which students can acquire college-ready academic skills.



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requires problem definition, research interpretation, testing of problem solutions and communication advances students' cognitive and higher-level academic skills. Students who report having at least four of the following eight experiences in their CT studies are credited with having rigorous learning experiences.

- Develop a logical argument for a solution to a problem or project.
- Make inferences from information provided to develop a solution for a problem or project.
- Use math to solve complex problems related to their CT area.
- Apply academic knowledge and skills to their CT area.
- Apply technical knowledge and skills to new situations.
- Develop and test hypotheses.
- Complete an extended project that requires planning, developing a solution for a defined problem that can be tested and presenting the results orally or in writing.
- Predict outcomes based on observations or information.

In 2010 and 2012, SREB's *High Schools That Work* found solid evidence that about a third of CT students experienced at least four of these rigorous learning experiences in their CT classes. When these students were compared with CT students who did not have such rich learning experiences in their CT classes but were similar demographically — parent education level, gender and race, — 15 percent to 25 percent more students with rigorous CT learning experiences met college- and career-readiness standards.<sup>1</sup> Challenging and rigorous learning experiences can be achieved in CT courses in three ways. The **first** is to recognize the value being added to college readiness by some of the existing high school CT courses within a pathway program of study.

The **second** way is to design a sequence of new CT courses in a high-demand, high-skill, high-wage career field. Texas can serve as an example. It has created a number of hybrid CT courses that can fulfill the academic requirement for the fourth math and/or science courses while advancing students work-ready academic, technical and employability skills. **Another example is SREB's *Preparation for Tomorrow (PFT)* multi-state collaborative to develop sequences of at least four rigorous CT courses in high-demand, high-skill and high-wage career fields that purposefully embed the Common Core State Standards or other rigorous state college- and career-ready standards in reading, mathematics and science.** This design approach blends the learning of academic, technical and habits of behavior and mind around authentic real-world problems and projects.

The *PFT* design calls for students to take end-of-course exams to assess their depth of learning around common core literacy, math and science standards as well as technical content. These exams will provide evidence of whether students have acquired sufficient academic learning in these four courses to be awarded one or more academic credits.

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<sup>1</sup> Special analyses of the 2010 and 2012 *High Schools That Work* Assessments.



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The **third** way is to redesign current CT courses in high-demand, high-skill, high-wage career fields. This can be done by transforming existing CT courses and creating courses that represent a blend of academic and technical skills aimed at advancing both college- and career-readiness. Regardless of configuration or the ways in which CT courses are designed, the bottom line should be: if students can attain an equivalent level of academic knowledge and skills in rigorous CT course work, then we ought to recognize that learning through academic credit.

In developing this report, we drew from ideas that emerged from an SREB forum of policy-makers and state leaders from 18 states who convened to look at conditions under which states can recognize academic learning occurring in CT course work. In addition, we surveyed existing policies in SREB states for awarding academic credit through CT studies. This report highlights a set of recommendations that will help policy-makers continue to shape and refine policies for designing CT courses for awarding academic credit. Implementing these recommendations will enable more students to graduate from high school with a career credential and ready to pursue advanced training, an associate's degree or bachelor's degree.

**First**, this is prudent policy. Until we have a solid base of research for what rigorous or redesigned CT courses should look like to add significant value to college- and work-ready achievement, it is recommended that states limit the number of academic credits awarded through CT course work to no more than two or three.

**Second**, we recommend avoiding a wholesale approval of a set of CT courses — i.e., any animal science course for biology, computer-aided drafting for geometry, etc., — unless such courses have been redesigned and reviewed through a state review process that includes academic educators, CT educators and higher education faculty. Such a review process should clearly find solid evidence of embedded academic standards and cognitive development at a level sufficient for awarding college- and career-ready academic credit. The individuals who teach such courses must be adequately prepared to do so. In most cases, there will not be a one-on-one match of a CT course to a given academic course. However, a sufficient amount of academic and essential cognitive learning required for an academic credit could occur over two or three CT courses. Further, states may elect to award academic credit for hybrid CT courses. Texas has done this for senior-level courses specifically designed to include a blended curriculum involving math, science, technical content and technology that may count as a fourth math or science credit.

**Third**, it is recommended that CT teachers be well prepared through teacher preparation programs and/or in-service training to teach course work aligned with rigorous Common Core State Standards through authentic projects using rigorous assignments designed to advance students' ability to define problems and to successfully apply problem-solving structures for addressing problems.



If students can attain an equivalent level of academic knowledge and skills in rigorous CT course work, then we ought to recognize that learning through academic credit.

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**Fourth**, once a CT course or series of CT courses have been approved for awarding academic credits, it is recommended that states invest in a process to validate that expected learning has in fact occurred. If it is not possible to collect such data on all courses, a sample could serve to validate learning and support awarding academic credit. Such a process will provide valuable insights for actions needed to continually improve CT rigor and authentic learning experiences that impact student learning.

**Fifth**, awarding academic credit is a policy mechanism for recognizing student academic and cognitive development through CT course work. It is recommended that states have a reapproval process for ongoing assessment of the effectiveness of CT courses approved for academic credit. The process needs to require state staff and an external panel of postsecondary and industry representatives to study submitted material to validate rigor and make recommendations for improvements.

**Sixth**, when states delegate authority to local districts for awarding academic credit through CT course work, it is recommended they provide guidance for a review process for CT courses potentially eligible for academic credit. The intent of the review process is to verify that: a) the course has sufficient embedded academic content; b) the teacher has the academic skills needed for teaching the course; c) and the academic and cognitive learning in the course is at least equivalent to that found in the traditional academic course.

**Summary.** Putting in place the right set of policies for awarding academic credit for CT courses is one way to recognize CT programs with signature features that truly advance students' technical, academic and cognitive skills development. It is our hope that this report will assist states in their continuing efforts to develop rigorous optional pathways designed around authentic learning experiences that will result in more students graduating from high school and graduating both college- and career-ready.



Gene Bottoms  
SREB Senior Vice President





# End-of-Course Exams

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## End-of-Course Exams

By Jennifer Dounay Zinth

March 2012

This report provides information on states that require students enrolled in courses that have an end-of-course (EOC) exam to take the EOC.

### EOC by the numbers:

#### Statewide administration:

- Twenty-two states currently administer one or more EOCs to all students in an EOC course.
  - This number will increase to 26 states over the next decade as EOCs are anticipated to be implemented in Alabama, Connecticut, Hawaii and Ohio.

#### EOC as exit exam:

- Eight states currently require students to *pass* one or more EOC assessments to graduate from high school.
  - This number will likely increase to 15 states by 2020, with the anticipated implementation of EOCs as exit exams in Alabama, Connecticut, Florida, Louisiana, Ohio, Texas and Washington.

#### EOC not exit exam:

- Eleven states currently administer EOCs to all students in an EOC course, but do not require students to earn a passing score. These 11 states include California, New Jersey and South Carolina, which use another assessment as the state's exit exam.

#### Final course grade:

- At least five states — Georgia, Kentucky, North Carolina, South Carolina and Tennessee — require that the score on the EOC be factored into a student's final course grade. A sixth state, Texas, offers districts a deferral of a policy to incorporate EOC scores into students' final course grades, but for the 2011-12 school year only.

### This report does not include:

- States such as Iowa and Michigan, which have developed EOCs for optional district-level use
- States such as Pennsylvania and Rhode Island, which allow EOCs to be used as one component of a proficiency demonstration that must accompany Carnegie units for high school graduation
- States such as South Dakota that have developed EOCs expressly for students who wish to exempt themselves from seat-time requirements in fulfilling high school graduation requirements
- States administering American Diploma Project (ADP) end-of-course assessments.

*More details on these states' EOC programs available from the author on request.*



State	Number of end-of-course exams	Those students must pass for HS graduation	Citation
AL	Proposal on transition from existing graduation exam to end-of-course assessments to be presented to the state board at its May 2012 meeting.		Gloria Turner, Alabama State Department of Education
AR	Four: <ul style="list-style-type: none"> <li>English II</li> <li>Algebra I</li> <li>Geometry</li> <li>Biology</li> </ul>	<ul style="list-style-type: none"> <li>Algebra I (current)</li> <li>English II (for 10<sup>th</sup> graders beginning 2013-14 school year) (Class of 2016)</li> </ul> *Students who fail Biology or Geometry EOCs must participate in remediation, but passing score on EOC not required for HS graduation*	Arkansas <a href="#">Rule</a>
CA	16: <sup>1</sup> <ul style="list-style-type: none"> <li>Algebra I</li> <li>Geometry</li> <li>Algebra II</li> <li>Integrated Math I, II, III</li> <li>Summative HS Math</li> <li>Biology</li> <li>Chemistry</li> <li>Earth Science</li> <li>Physics</li> <li>Integrated Science I, II, III, IV</li> <li>World History</li> </ul>	None *State uses CAHSEE (California High School Exit Examination) for exit purposes*	California Department of Education, <a href="#">Standardized Testing and Reporting Program: Annual Report to the Legislature</a> ; February 2011; Blessing Mupanduki, STAR Office, California Department of Education
CT	Five (to be developed): <sup>2</sup> <ul style="list-style-type: none"> <li>Grade 10 English</li> <li>Algebra I</li> <li>Geometry</li> <li>Biology</li> <li>American History</li> </ul>	Effective Class of 2020: <ul style="list-style-type: none"> <li>Grade 10 English</li> <li>Algebra I</li> <li>Geometry</li> <li>Biology</li> <li>American History</li> </ul>	CONN. GEN. STAT. ANN. § 10-221a(c), 10-5e
DE	Five: <ul style="list-style-type: none"> <li>English II</li> <li>Algebra I</li> <li>Integrated Math I<sup>3</sup></li> <li>Biology</li> <li>U.S. History</li> </ul>	None	Delaware Comprehensive Assessment <a href="#">System</a> , Delaware Department of Education <a href="#">News Release</a> , "New test to better track student progress toward college and career readiness debuts in Delaware classrooms," October 11, 2010; Alison Kepner, Delaware Department of Education

<sup>1</sup> California also has end-of-course in CMA (California Modified Assessment) program for students with IEPs. CMA EOCs are available in Algebra I and geometry. STS (Standardized Test in Spanish) program administers EOCs in Algebra I and geometry.

<sup>2</sup> Legislation directs the department of education to begin development or approval of end-of-course assessments on/after July 1, 2014, and for these assessments to be developed or approved by July 1, 2016.

<sup>3</sup> An Algebra II/Integrated Math III EOC is being field-tested in 2011-12 and is anticipated to be

State	Number of end-of-course exams	Those students must pass for HS graduation	Citation
<b>FL</b>	Five: <ul style="list-style-type: none"> <li>Algebra I</li> <li>Geometry</li> <li>Biology I</li> <li>U.S. History</li> <li>Civics (for middle grades)</li> </ul>	State currently transitioning to EOC for math/science portion of exit exam: <ul style="list-style-type: none"> <li>Algebra I (eff. students entering grade 9 in 2011-12)</li> <li>Geometry</li> <li>Biology I (both eff. for students entering grade 9 in 2012-13)</li> </ul> *State will use Grade 10 FCAT 2.0 Reading as the English language arts portion of the state's exit exam. Eff. 2014-15 school year, students must pass middle grades Civics EOC to be promoted from middle grades.*	FLA. STAT. ANN. § 1003.428(2)(a)(2) and (3), 1008.22(3)(c)(2); <a href="#">Graduation Requirements for Florida's Statewide Assessments</a>
<b>GA</b>	10: <ul style="list-style-type: none"> <li>9<sup>th</sup>-Grade Literature and Composition</li> <li>American Literature and Composition</li> <li>Mathematics I: Algebra/Geometry/Statistics</li> <li>Mathematics II: Geometry/Algebra II/Statistics</li> <li>GPS Algebra</li> <li>GPS Geometry</li> <li>Biology</li> <li>Physical Science</li> <li>United States History</li> <li>Economics/Business/Free Enterprise</li> </ul>	None. However, students in a course with an EOC must take the EOC, and the EOC score must count as 15% of the student's final course grade.	GA. COMP. R. & REGS. r. 160-4-2-.13(2)(e); Georgia Department of Education <a href="#">Web site</a>
<b>HI</b>	One: <ul style="list-style-type: none"> <li>Biology (eff. 2012-13)</li> </ul>	None	January 6, 2012 <a href="#">memo</a> from State Superintendent Kathryn Matayoshi
<b>IN</b>	Three: <ul style="list-style-type: none"> <li>English 10</li> <li>Algebra I</li> <li>Biology I</li> </ul>	<ul style="list-style-type: none"> <li>English 10</li> <li>Algebra I</li> </ul>	IND. ADMIN. CODE tit. 511, r. 5-2-3(b)(4) and (5)
<b>KY</b>	Four: <sup>4</sup> <ul style="list-style-type: none"> <li>English II</li> <li>Algebra II</li> <li>Biology</li> <li>U.S. History</li> </ul>	None. However, teachers must incorporate EOC scores into a student's final grade in the course, in accordance with local board and school-based decision-making council policies. Local boards must provide justification to the Kentucky Department of Education if that percentage factored into student's final grade is below 20%.	KY. REV. STAT. ANN. § 158.860; KDE <a href="#">Frequently Asked Questions: End-of-Course (EOC) Assessments: Edition 1</a>
<b>LA</b>	Six: <ul style="list-style-type: none"> <li>English II</li> <li>English III</li> <li>Algebra I</li> <li>Geometry</li> <li>Biology</li> <li>U.S. History</li> </ul>	Eff. students entering grade 9 in 2010-11 (Class of 2014): <ul style="list-style-type: none"> <li>English II or English III</li> <li>Algebra I or Geometry</li> <li>Biology or American History</li> </ul>	La. Admin Code. tit. 28, pt. XXXIX, § 503(B)(1)(b), La. Admin Code. tit. 28, pt. CXI, § 701, 1801 and ff.
<b>MD</b>	Four: <ul style="list-style-type: none"> <li>English</li> <li>Algebra/Data Analysis</li> <li>Biology</li> <li>Government</li> </ul>	<ul style="list-style-type: none"> <li>English</li> <li>Algebra/Data Analysis</li> <li>Biology</li> <li>Government</li> </ul> * Students must either receive a passing score on all four assessments or receive an overall combined score of 1602.*	MD. REGS. CODE tit. 13A, § 03.02.09(B)(3); Section 4, "Scoring Procedures" HSA Technical <a href="#">Report</a>

<sup>4</sup> Statute also calls for creation of Algebra I and Geometry EOCs, but these have not been developed at this time.



State	Number of end-of-course exams	Those students must pass for HS graduation	Citation
<b>MA</b>	Four: <ul style="list-style-type: none"> <li>• Biology</li> <li>• Introductory Physics</li> <li>• Chemistry</li> <li>• Technology/Engineering</li> </ul>	Students must earn passing score on one of the four MCAS Science and Technology/Engineering (STE) tests (at left).	Mass. DOE MCAS <a href="#">Web site</a>
<b>MS</b>	Four: <ul style="list-style-type: none"> <li>• English II</li> <li>• Algebra I</li> <li>• Biology I</li> <li>• U.S. History from 1877</li> </ul>	<ul style="list-style-type: none"> <li>• English II</li> <li>• Algebra I</li> <li>• Biology I</li> <li>• U.S. History from 1877</li> </ul>	SBE Policy <a href="#">3600</a> , <a href="#">3800</a>
<b>MO</b>	Eight: <sup>5</sup> <ul style="list-style-type: none"> <li>• English I</li> <li>• English II</li> <li>• Algebra I</li> <li>• Geometry</li> <li>• Algebra II</li> <li>• Biology</li> <li>• Government</li> <li>• American History</li> </ul>	None. However, students in Algebra I, Biology, English II and Government must take those EOCs.	Missouri Department of Elementary & Secondary Education <a href="#">Web site</a>
<b>NJ</b>	One: <ul style="list-style-type: none"> <li>• Biology</li> </ul>	None. However, students in a Biology course must take the Biology Competency Test (EOC). State uses High School Proficiency Assessment (HSPA) for exit purposes.	Measurement Incorporated <a href="#">fact sheet</a>
<b>NY</b>	13: <ul style="list-style-type: none"> <li>• Comprehensive English</li> <li>• Integrated Algebra</li> <li>• Geometry</li> <li>• Algebra 2/Trigonometry</li> <li>• Chemistry</li> <li>• Earth Science</li> <li>• Living Environment</li> <li>• Physics</li> <li>• Global History and Geography</li> <li>• United States History and Government</li> <li>• French</li> <li>• Italian</li> <li>• Spanish</li> </ul>	Five Regents exams, one each in: <ul style="list-style-type: none"> <li>• English</li> <li>• Mathematics (chosen from list at left)</li> <li>• Science (chosen from list at left)</li> <li>• United States History and Government</li> <li>• Global History and Geography</li> </ul>	N.Y. COMP. CODES R. & REGS. tit. 8, § 100.5; New York State Education Department <a href="#">Web site</a>
<b>NC</b>	Three: <ul style="list-style-type: none"> <li>• English I</li> <li>• Algebra I</li> <li>• Biology</li> </ul>	None. However, students in a course with an EOC must take the EOC, and LEAs must make EOC results at least 25% of a student's final course grade. LEAs must adopt policies on the use of EOC assessment results in final grades. A North Carolina Department of Public Instruction <a href="#">document</a> clarifies the courses in which students must take an EOC.	N.C. ADMIN. CODE tit. 16, r. 6D0305; North Carolina Department of Public Instruction <a href="#">Web site</a>
<b>OH</b>	TBD	Statute calls for Ohio Graduation Test (OGT) to be replaced by a two-part "college and work ready assessment system" comprised of: <ol style="list-style-type: none"> <li>1. A nationally standardized assessment that measures college and career readiness</li> <li>2. A series of EOCs in English language arts, math, science and social studies. "For each subject area, the state superintendent</li> </ol>	OHIO REV. CODE ANN. § 3301.0712(B)

<sup>5</sup> Districts must administer EOCs in Algebra I, Biology, English II and Government to students taking those courses. The other four EOCs are made available at no cost to districts, but districts are not required to administer to students enrolled in those courses.



State	Number of end-of-course exams	Those students must pass for HS graduation	Citation
		and chancellor shall select multiple assessments that school districts, public schools, and chartered nonpublic schools may use as end-of-course examinations. Those assessments shall include nationally recognized subject area assessments, such as advanced placement examinations, SAT subject tests, international baccalaureate examinations, and other assessments of college and work readiness.”	
		Statute does not specify a timeline for transitioning from the OGT to the college and work ready assessment system.	
OK	Seven: <ul style="list-style-type: none"> <li>• English II</li> <li>• English III</li> <li>• Algebra I</li> <li>• Algebra II</li> <li>• Geometry</li> <li>• Biology I</li> <li>• U.S. History</li> </ul>	<ul style="list-style-type: none"> <li>• English II</li> <li>• Algebra I</li> </ul> And two of the five: <ul style="list-style-type: none"> <li>• English III</li> <li>• Algebra II</li> <li>• Geometry</li> <li>• Biology I</li> <li>• U.S. History</li> </ul>	OKLA. STAT. ANN. tit. 70, § 1210.508(A)(6), 1210.523
SC	Four: <ul style="list-style-type: none"> <li>• English 1</li> <li>• Algebra I/Math for the Technologies 2</li> <li>• Biology 1/Applied Biology 2</li> <li>• U.S. History and the Constitution</li> </ul>	None — state uses another assessment for exit purposes. However, students in a course with an EOC exam must take the EOC, and “students are required to pass a high school credit course in science and a course in United States history in which end-of-course examinations are administered to receive the state high school diploma.” The EOC score counts as 20% of the student’s final grade in the course.	S.C. CODE ANN. § 59-18-310(B); 43 S.C. CODE ANN. REGS. 43-262; South Carolina Department of Education <a href="#">Web site</a>
TN	Nine: <ul style="list-style-type: none"> <li>• English I</li> <li>• English II</li> <li>• English III</li> <li>• Algebra I</li> <li>• Geometry</li> <li>• Algebra II</li> <li>• Biology I</li> <li>• Chemistry</li> <li>• Physics</li> <li>• U.S. History</li> </ul>	None. However, students in a course in which an EOC is administered must take the EOC and earn a passing grade in the course. For students entering grade 9 in fall of 2009 and 2010 (Class of 2013 and 2014), scores on EOC exams = 20% of final course grade. For students entering grade 9 in fall of 2011 and thereafter (Class of 2015) EOC exam scores = 25% of final grade.	TENN. COMP. R. & REGS. 0520-01-03.06(2)(d); Tennessee Department of Education <a href="#">Web site</a>
TX	12: <sup>6</sup> <ul style="list-style-type: none"> <li>• English I</li> <li>• English II</li> <li>• English III</li> <li>• Algebra I</li> <li>• Geometry</li> <li>• Algebra II</li> <li>• Biology</li> <li>• Chemistry</li> <li>• Physics</li> <li>• World Geography</li> <li>• World History</li> <li>• United States History</li> </ul>	Eff. Class of 2015: Students must take all 12 EOCs, earn a to-be-determined cumulative score on each of the four content areas, and pass the English III and Algebra II EOCs. An exception to the EOC requirement is made for a student who elects into “Minimum” high school curriculum, in which case a student is exempted from EOCs in courses not required by the Minimum curriculum. Statute also requires a student’s score on the EOC assessment to account for 15% of a student’s final course grade. However, a February 2012 <a href="#">letter</a> from the commissioner of education provides districts a deferral of this policy for the 2011-12 school year.	TEX. EDUC. CODE ANN. § 28.014, 39.023(c), 39.0232, 39.0233, 39.024, 39.025; Texas Education Agency <a href="#">Web site</a>
		Statute requires the end-of-course exams to be used for college placement purposes (students who achieve a certain benchmark on English III or Algebra II EOCs are considered “college-ready”	

<sup>6</sup> Texas also has “modified” and “alternate” EOC assessments for students with disabilities, and EOCs in some subject areas for English language learners.

State	Number of end-of-course exams	Those students must pass for HS graduation	Citation
		<p>and do not need to take a placement exam upon entry to a public four-year postsecondary institution in the state). Statute additionally requires the Texas Education Agency to develop EOC questions to identify students “who are likely to succeed in an advanced high school course.”</p> <p>In addition, students who do not meet college readiness standards on a required end-of-course assessment must complete a “college preparatory” course (which has its own end-of-course assessment) in that subject. Statute directed the commissioner of education and commissioner of higher education to recommend for state board adoption “the essential knowledge and skills of courses in college preparatory mathematics, science, social studies, and English language arts[.]” The score on the EOC for the college preparatory course must account for 15% of the student’s final grade for the course.</p>	
UT	11: <ul style="list-style-type: none"> <li>• English 9</li> <li>• English 10</li> <li>• English 11</li> <li>• Pre-Algebra</li> <li>• Algebra I</li> <li>• Geometry</li> <li>• Algebra II</li> <li>• Earth Systems</li> <li>• Biology</li> <li>• Chemistry</li> <li>• Physics</li> </ul>	None	UTAH ADMIN. CODE R277-402(G)(1) and R277-404-3(A)(1); Utah State Office of Education <a href="#">Web site</a>
VA	12: <ul style="list-style-type: none"> <li>• Reading (usually administered grade 11)</li> <li>• Writing</li> <li>• Algebra I</li> <li>• Geometry</li> <li>• Algebra II</li> <li>• Earth Science</li> <li>• Biology</li> <li>• Chemistry</li> <li>• World Geography</li> <li>• Virginia and U.S. History</li> <li>• World History and Geography to 1500</li> <li>• World History and Geography since 1500</li> </ul>	Six: <ul style="list-style-type: none"> <li>• 2 in English</li> <li>• 1 math</li> <li>• 1 laboratory science</li> <li>• 1 history and social sciences</li> <li>• 1 student-selected</li> </ul>	8 VA. ADMIN. CODE § 20-131-50; Virginia Department of Education <a href="#">Web site</a>

State	Number of end-of-course exams	Those students must pass for HS graduation	Citation
WA	Three: <ul style="list-style-type: none"> <li>Algebra I/Integrated Math I</li> <li>Geometry/Integrated Math II</li> <li>Biology<sup>7</sup></li> </ul>	<p>Eff. Class of 2012: No, although all 10<sup>th</sup> graders must take Biology EOC (even those not enrolled in a biology course), as state is using Biology EOC to fulfill high school science assessment requirement for NCLB accountability.</p> <p>Eff. Class of 2013: Students may use results from either EOC from first year of HS mathematics (i.e., Algebra I or Integrated Math I) or results from a high school mathematics retake assessment to complete math portion of exit exam.</p> <p>Eff. Class of 2015: Students must complete math portion of exit exam requirement via Algebra I/Integrated Math I and Geometry/Integrated Math II (“or results from a high school mathematics retake assessment for the end-of-course assessments in which the student did not meet the standard.”)</p>	<p>WASH. REV. CODE ANN. § 28A.655.066, .068; Washington Office of Superintendent of Public Instruction <a href="#">Web site</a></p>

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<sup>7</sup> 2011 legislation establishes legislative intent to develop additional science EOC assessments: “the legislature finds that the financial resources for developing additional end-of-course assessments for high school science are not available in the 2011-2013 biennium. Nevertheless, the legislature intends to revisit this issue in the future and further intends at an appropriate time to direct the superintendent of public instruction to develop one or more end-of-course assessments in additional science subjects.”





**Standard High School Diploma Options**  
**MP = Must Pass EOC = End-of-Course Assessment**

	<b>Current Standard Diploma Requirements 9<sup>th</sup> grade cohort 2012-13</b>	<b>First Time in College Students -- State University System Minimum Admission Requirements</b>	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>
<b>Statute/Rule</b>	s. 1003.428, F.S. 2006	Rule 6.002 BOG			
<b>English</b>	<b>4 credits</b> 10 <sup>th</sup> FCAT Reading MP	<b>4 credits</b>			
<b>Math</b>	<b>4 credits</b> Algebra I, MP EOC Geometry, MP EOC Algebra II	<b>4 credits</b> at or above the Algebra I level			
<b>Science</b>	<b>3 credits (2 with labs)</b> Biology I, MP EOC Chemistry or Physics (2013-14) Equally rigorous course (2013- 14)	<b>3 credits</b> 2 with labs			
<b>Social Studies</b>	<b>3 credits</b> US History (30% EOC) World History .5 Economics .5 US Government	<b>3 credits</b> to include anthropology, history, civics, political science, economics, sociology, psychology and/or geography			
<b>Fine/Performing Arts</b>	<b>1 credit</b>	<b>none</b>			
<b>Physical Education with Health</b>	<b>1 credit</b>	<b>none</b>			
<b>Foreign Language</b>	<b>none</b>	<b>2 credits in the same language</b>			
<b>Electives</b>	<b>8 credits</b>	<b>2 credits</b>			
<b>Total</b>	<b>24 credits<sup>1</sup></b>	<b>18 credits</b>			

<sup>1</sup> One of the 24 credits must be in an online course.