Strengthening
The Illinois High School Curriculum:
Policy Options and Implementations Strategies

Submitted to the
Illinois Board of Higher Education

By the
Center for the Study of Education Policy
Illinois State University
June 2005

Strengthening
The Illinois High School Curriculum
Policy Options and Implementations Strategies

Introduction

The high school is now the focus of attention at the national and state levels, adding urgency to long-term efforts in Illinois to improve learning and prepare students for work and further education. In February 2005, the National Governors Association called for "wide reform that will make high school, particularly senior year, more engaging, rigorous and relevant to the lives of America's youth."

Consistent with this national priority, in May 2005, the Illinois General Assembly passed legislation to strengthen high school graduation requirements. As a key component of Governor Rod Blagojevich's *Higher Standards-Better Schools* plan, the legislation calls for increasing high school graduation requirements to include more mathematics, science, and writing-intensive courses. The new requirements will be phased in over four years starting with students entering high school in the fall of 2005.

The new graduation requirements are a major step forward in strengthening the high school curriculum for all students. With this more challenging curriculum, Illinois students will have a better chance to meet Illinois Learning Standards and to be prepared for careers and college-level work. However, because the new graduation requirements fall short of college admission requirements, Illinois high schools will continue to have a two-tiered system and students will still be able to graduate from an Illinois high school without being fully prepared for college. The old way of thinking was that a high school diploma was all a student needed to have a comfortable life. Decades ago that might have been true. However, the 21st century high school must be a stepping stone to further education for all students.

The new requirements represent the starting point for strengthening the Illinois high school curriculum. The effectiveness of the legislation may depend on the development of guidelines for writing-intensive courses and for course content and sequencing that are aligned with Illinois Learning Standards. Because the national emphasis is on preparing all high school graduates for college, the guidelines and definitions should go beyond graduation requirements to incorporate college and university admission requirements and even more advanced college readiness curricula examined in recent research.

This paper examines the reasons why the high school curriculum has become the center of attention and evidence that what students learn in high school can make a significant difference in their success in college and careers. Course-taking patterns in Illinois and the history of policy development in this area are described. Policy options based on the most recent research and the conditions necessary for implementation are discussed.

Need for Redesigning the High School Curriculum

The *Higher Standards-Better Schools* plan addresses the concerns of national leaders who fear that, as educational achievement stagnates, the United States is losing its competitive edge. State leaders are concerned that the educational system is not

meeting the needs of communities and employers effectively or efficiently. High school graduates and their families worry that they are not well prepared for their futures—further education, careers, or most likely both. They are aware that a high school diploma no longer opens doors to "family wage" jobs. The research evidence suggests that chances for success in college increase substantially with each additional course in Language Arts, Mathematics, Science, and Social Studies.

National Perspective: Keeping the Competitive Edge

The United States economy held a competitive advantage over all other countries in the last half of the 20th Century. This advantage was founded on the country's vast natural resources, high levels of educational attainment, and innovative and entrepreneurial genius. Is the U.S. losing its competitive advantage? Advances in technology and the globalization of the economy have put China, India, and other developing countries in a position to compete effectively with the United States and Europe for design and management functions, not just the unskilled work that is being outsourced now. As Thomas Friedman puts it, "Here is the dirty little secret that no C.E.O. wants to tell you: they are not just outsourcing to save on salary. They are doing it because they can often get better-skilled and more productive people than their American workers."

In February 2005, Bill Gates told the National Education Summit on High Schools. "America's high schools are obsolete…even when they're working exactly as designed—[they] cannot teach our kids what they need to know today." Gates pointed out that U.S. "fourth graders are among the top students in the world. By eighth grade, they're in the middle of the pack. By 12th grade, U.S. students are scoring near the bottom of all industrialized nations."

In addition to concerns about the quality of education, it appears that the U.S. is being outpaced by both India and China in the number of college graduates. Gates reported that "in 2001, India graduated almost a million more students from college than the United States did. China graduates twice as many students with bachelor's degrees as the U.S., and they have six times as many graduates majoring in engineering." For security reasons, the U.S. is recruiting fewer students from abroad. At the same time, educational opportunities are expanding in Europe, India, and Asia and attracting many of the students who in the past would enrolled in U.S. colleges and universities and stayed on to fill our demand for scientists and engineers. The U.S. Chamber of Commerce reports that "by the year 2010, we will not have a shortage of jobs, but rather a shortage of workers" (U.S. Chamber of Commerce, April 2004). Nationally, a shortage of 10 million workers is projected by 2010 given expected job growth (U.S. Chamber of Commerce, Summer 2003).

State Perspectives: Maintaining the Pipeline

Bob Wise, former Governor of West Virginia and president of the Alliance for Excellent Education, says "With one-third of our students not graduating from high school, and another third graduating without the necessary skills to succeed in college and the workplace, we face a crisis in this country. Implementing programs that promote high school graduation is a shrewd investment by any state. The gains realized include higher employment, better wages and a healthier state economy." The Alliance estimates that Illinois could stand to gain hundreds of millions of dollars in increased earnings if students would finish high school and attain at least some post-secondary education. The value goes up to nearly $.5 billion in additional

earnings if students would attain a bachelor's degree (Alliance for Excellent Education, April 6, 2005).

States recognize that high schools are the critical link in the educational pipeline—persistence through high school, appropriate preparation for work and further education, continuation to postsecondary training and education, and completion of certification or degree programs. The overall educational attainment of Illinois citizens compares favorably with the national average, but there are differences across regions. Illinois metropolitan areas tend to have relatively more college degree holders than non-metropolitan areas. Interestingly, Cook County has higher percentages than the state and national averages at both ends of the educational spectrum—less than a high school diploma and bachelor's degree or higher.

Table 1
Educational Attainment
Illinois and Nation
Percent of Population 25 or More Years

	U.S.	Illinois	Illinois Metro*	Cook County	Illinois Nonmetro
Less than 9th grade	7.5	7.5	7.5	9.6	7.5
9th to 12th no diploma	12.1	11.1	10.8	12.7	12.4
High School Graduate	28.6	27.7	25.9	24.2	37.7
Some College	21.0	21.6	21.6	20.3	21.7
Associate Degree	6.3	6.1	5.9	5.2	6.9
Bachelor's Degree	15.5	16.5	17.9	17.2	9.2
Graduate/Professional Degree	8.9	9.5	10.4	10.8	4.8

*Bloomington-Normal, Champaign-Urbana, Chicago, Kankakee, Davenport, Moline, Rock Island, Decatur, Peoria-Pekin, Rockford, St. Louis, and Springfield.
Source: U.S. Bureau of the Census, Current Population Survey, 2000

Although the educational attainment of Illinois' adult population is above the national average, concerns remain about current and future generations of high school graduates. One in eleven Illinois high school students drop out each year, and less than three-fourths of Illinois 9th graders finish high school. Although 59% of young people have participated in college by age 19, only 41% took a college preparation curriculum in high school.

Table 2
Education Pipeline

	U.S.	Illinois
Annual High School Drop Out Rate 2001-02	9%	9%
Public High School Graduation Rates 2001-02*	68%	73%
% Taking College Prep Curriculum (ACT tested)	52%	41%
College Participation by Age 19 2002	57%	59%

*The public high school graduation rate is the ratio of fall 9th grade enrollment divided by regular high school graduates four years later.
Source: National Center for Education Statistics provided by Postsecondary Education Opportunity, www.postsecondary.org

One public policy objective is to deliver highly-skilled workers to existing businesses and industries and to help attract new enterprises to the state. Education serves, in effect, as a "productivity engine" driving the state's economic development. Less than half (47%) of Illinois businesses responding to a U.S. Chamber of Commerce

Survey indicated that qualified job applicants were "easy to find" or "not too hard to find." Forty-four percent reported that employees' skills met current (2003) job requirements, but only 31% expected that the same preparation would be adequate to meet the increased skill requirements in just two years (2005). Although the survey reveals cause for concern, the satisfaction of Illinois employers was higher than the national averages for supply (38% easy or not too hard to find) and preparation (40% met current job requirements) of workers and comparable to four other Midwestern states. Part of the difference may be explained to the fact that relatively more Illinois employers reported that they were not currently hiring (16%) than the national average (11%). (U.S. Chamber of Commerce, 2003, pp. 2-5)

Illinois government and education leaders are also interested in the efficiency of the educational system. The system is not working well when considerable numbers of college students are required to take remedial (high school level) courses before advancing to college level work. In 2002, for example, almost 95,000 Illinois community college students were enrolled in one or more remedial/developmental course and the number of students needing remediation has increased annually. An average of 14% of community college students were enrolled in developmental coursework, ranging from 1% to 29% at individual colleges depending at least in part on policies and definitions in place. (Illinois Community College Board, 2004)

Students' Perspectives: Preparing for Success

For students, a solid high school curriculum provides an advantage in entering college, starting a career, and advancing and succeeding in both. Students who complete an academically rigorous high school curriculum are more likely to enter college, persist, and earn a degree. (Adelman, 2004) Students and their parents recognize the long-term economic advantages of attaining higher education credentials. U.S. Census data from 2000 confirms the economic benefits:

Table 3
Median Annual Income for Workers Age 25 and Older

With a high school diploma	$24,267
With an associate's degree	$30,774
With a bachelor's degree	$40,314

U.S. Bureau of the Census. March 2001.

In fact, 70% of high school graduates do attend college within two years of graduation (The Education Trust, 1999). However, too many of those who finish high school have not completed an academically rigorous curriculum. Without appropriate academic preparation, these students are more likely to need remediation in college and less likely to complete a degree. A national longitudinal study has shown that students who are required to take remedial coursework are far less likely to complete a college certificate or degree program (Adelman, 2004).

More than half of high school students in Illinois graduate without completing a core curriculum. In 2003-04, only 41% of Illinois students taking the ACT completed a 13-unit core of courses in English, mathematics, science, and social studies. This compares to an average of 52% of ACT-tested students nationwide.

High School Coursework and Success in College and Careers

High school course-taking has a greater effect than other variables on college success. High school curriculum represents 41% of the academic resources—the intellectual capital—students bring to their higher education studies; this compares to 30% for test scores and 29% for GPA/class rank. The correlation of high school curriculum with attainment of the bachelors' degree is also higher (.54) than either test scores (.48) or GPA/class rank (.44) (Adelman, 1999, p. 19).

Some of the best evidence that rigorous high school coursework contributes to college success comes from studies of mathematics course taking. Studies have shown, for example, that Algebra I students are five times as likely to get no degree as students taking more advanced courses; calculus completers are six times as likely to get a bachelors degree and over 20 times as likely to get a graduate degree as non-calculus takers (Vogt, 2004). Another study has shown that finishing a course beyond Algebra 2 (e.g., trigonometry, calculus) more than doubles the chances that a student who enters higher education will complete the baccalaureate degree (Adelman, 1999, pp. 16-18)

Of particular interest are the findings of studies on the relationship of course-taking patterns and performance on Illinois' Prairie State Achievement Examination (PSAE). Studies conducted by Illinois State University's Center for the Study of Education Policy and supported by the IBHE's Higher Education Cooperation Act grants, found that a "math ladder" was a critical factor in students' performance on the mathematics component of the PSAE. As students progressed up the math ladder—algebra 1, geometry, algebra 2, trigonometry, advanced mathematics, and calculus—their chances of meeting or exceeding the PSAE math standards increase substantially. In *The Broken Ladder,* William Rau and Shawn Wick report the following:

- 57% of all students met or exceeded the PSAE Standards
- 13% of the students whose highest math course was Algebra 1 met or exceeded the PSAE standards
- 85% of the students who climbed the math ladder through calculus met or exceeded the standards.
- "The algebra 2/trigonometry divide separates students into mathematical haves and have-nots."

The researchers found, however, that the ladder was not as effective for Black and Latino students as it is other students. Minority students are less likely to meet or exceed the PSAE standards for mathematics. Further, the relationship between mathematics courses and meeting PSAE standards was weaker for minority students. Of most concern is the finding that the math ladder is broken at schools where 98% to 100% of the students are Black. "Only 13% of level 6 students [students who took advanced mathematics and calculus] met math standards, not a significant improvement over the 8% of level 4 [trigonometry] who met the standards."

Predictably, family income (socio-economic status or SES) is related strongly to the type of academic preparation a student receives. The table below shows this relationship quite clearly using national data:

Table 4 **Socio-Economic Status** **and High School Course Patterns**		
High School Course Pattern	**Low SES (bottom quartile)**	**High SES (top quartile)**
Academically Rigorous Track	8%	28%
Academic Track	31%	56%
Other HS preparation	61%	16%
(Carnevale & Desrochers, 2003)		

However, when a rigorous high school curriculum is combined with test scores and class rank to create an "Academic Resources Index", research finds that students from the lowest two-fifths of SES—who are also in the *highest* one-fifth in relation to the Academic Resources Index—earn bachelor's degrees at a higher rate than the majority of students from the highest SES quintile (Adelman, 1999, pp. 24-25).

Research by ACT has consistently shown a relationship between ACT scores and the high school curriculum. ACT defines the college-preparatory "core" courses as

- 4 years of English (grammar, composition, literature, etc.)
- 3 or more years of Mathematics (Algebra I and higher)
- 3 or more years of Science (Earth, biology, chemistry, physics, etc.)
- 3 or more years of Social Science (history, geography, civics, economics, etc.)
- Additional courses (which vary by college, including foreign language, arts, etc.)

Students who take a core of 13 academic courses consistently score higher than those who do not. In Illinois, for example, ACT data indicate that Caucasian and Asian students are more likely to complete an academic core in high school than African American, Hispanic, and American Indian students, but students in all racial/ethnic groups benefit substantially from taking an academic core.

Table 5 **Illinois Composite ACT Scores** **Students Completing Academic Core of High School Courses** **And Students Not Completing the Core**			
	% Taking Core or More	**Average ACT Composite Score**	
		Core	**Non-Core**
All Students	41	22.4	18.6
African American/Black	33	18.1	16.1
American Indian/Alaskan Native	29	20.6	16.3
Caucasian American/White	47	23.4	19.8
Hispanic	33	19.4	16.6
Asian American/Pacific Islander	54	23.6	20.3
Source: ACT (2004). *Measuring College Readiness: The Illinois Graduating Class of 2004. http://www.isbe.net/news/2004/aug18_04.htm*			

Illinois High School Course-Taking Patterns

Ninety-nine percent of Illinois graduates take the ACT examination, because it is embedded within the Prairie State Achievement Examination, now required for graduation. The survey data included in the testing provides a rich source of data for analysis, including course-taking patterns as reported by students.

The Illinois Education Research Council (IERC) analyzed the Illinois course-taking data from the 2004 PSAE for the Joint Education Committee in February 2005. Their findings are summarized below:

Table 6
Course-Taking Patters of Illinois Students 2004

Subject	% Meeting or Exceeding Core	% Exceeding Core
English	77%	32%
Mathematics	68%	48%
Science	62%	19%
Social Science	62%	42%

These data would indicate that one-fourth to one-third of Illinois graduates do not take the minimum course requirements in the core subjects necessary to meet college admission requirements for credit-bearing courses in baccalaureate programs. And, as stated earlier, only 41% meet or exceed the entire battery (13 credits) of core courses. On the other hand, if two-thirds to three-fourths of students are already meeting the core requirements in at least one subject, then moving toward 100% may not be as monumental a shift as may have been otherwise projected.

ACT has identified benchmark scores on the subject area tests in English, mathematics, science, and social studies that correlate to success in college freshmen courses. Based on these benchmarks, ACT data indicate that 62% of Illinois students are ready for success in a freshman credit-bearing course in English Composition, 36% are ready for College Algebra, and 24% are ready for first-year Biology. ACT research on readiness has shown that too few students are ready for college-level coursework in one or more subject areas and minority students are much less likely to be college-ready. Despite school reform efforts during the past decade, “student performance on the ACT Assessment has remained stable or increased only slightly.”

Some questions may arise as to whether students choose the weaker academic course plan for themselves, or are tracked into lower expectations, or are unaware of their options and the consequences of various choices. A recent report from the Bridge Project at Stanford University shows that only 67% of Illinois students in the study reported talking with their high school counselor at least once about college admission requirements (Venezia, et al, 2004). The study also found inequalities between the amount and quality of college counseling for honors and non-honors students.

High School Curriculum Reform Models

Recent ACT research on readiness for college focuses not simply on the number of courses in each subject but also on the rigor of courses and indicates that more than

the traditional college core may be necessary for success in college. The ACT study suggests the following new core curriculum provides a better chance of obtaining the benchmark score on subject area tests and hence success in related college level courses:

- Four years of English plus speech
- Algebra I and II, Geometry, Trigonometry, and Calculus
- 3 courses in social studies plus an additional history course
- General science, biology, and chemistry plus physics (ACT, 2004)

Other national research has reached similar conclusions. The American Diploma Project has found that in order to meet "the real-world demands of work and postsecondary education, all high school students should take four years of mathematics including Algebra I and II, geometry, data analysis, and statistics and four years of English including literature, writing, reasoning, logic, and communication skills. (American Diploma Project, 2004) National High School Alliance/Institute for Educational Leadership has developed core principles for design of the high school curriculum including curricula aligned with standards and postsecondary education entrance requirements.

Embedded in these reform models are two basic premises: that the actual *content of the designated courses* will be aligned with state standards, and that the *scope, sequence, and rigor of the course sequences* will be adequate preparation for credit-bearing course-taking in college. To date, the state of Illinois has not undertaken a project to meld the state's high school content standards with its graduation requirements. Without a policy that specifies course content, course-taking could be simply a measure of seat time. In the May 25, 2005 edition of the *Chicago Tribune*, Robert Urbain, president of the Illinois Council of Teachers of Mathematics, refers to the tradition of describing requirements in terms of years, saying "You just don't want to say three years [of mathematics], because that could be three years of garbage."

Several states have adopted new high school course requirements for graduation that are consistent with recent research and recommendations of policy groups. Arkansas, Texas, and Indiana have adopted high school graduation requirements that specify both the number and level of courses in each academic area—English, Mathematics, Natural Science, Social Studies, Foreign Languages and Fine Arts. Table A in the appendix provides the course patterns for these states.

History of Illinois Policy Development

Graduation Requirements

Prior to the passage of the new high school graduation requirements in the 2005 Legislative session, Illinois required that high school students complete a total of eight course units in the core academic subject areas (3 units in language arts, 2 in mathematics, 1 in science, and 2 in social studies) and one additional unit in music, art, foreign language, or vocational education. Although course units are not specified, the *School Code* also requires instruction in consumer education, environmental issues, health and safety, and physical education.

After a multi-year public development period, the State Board of Education adopted the Illinois Learning Standards in 1997, and proceeded to revamp the state tests to

measure the knowledge and skills within the standards. The subject area teams were lead by university faculty known for their leadership in working with the development of national standards in their subject specialties.

The ACT was selected as a key component of the Prairie State Achievement Examination, based on an analysis of its English, mathematics and science content in relation to the standards. The ACT was found to be a good match for testing most components of the state standards in these subjects. The exception was science content, which was subsequently custom-developed to supplement the ACT Science Reasoning test.

In 2001, the Joint Education Committee discussed graduation requirements in light of the K-12 state standards, recognizing that the standing requirements were a mismatch with the content and rigor of the standards. In addition, data on the rising amount and cost of remedial coursework in college was factored into the discussions. *No student meeting the long-standing state minimum requirements for high school graduation could possibly have taken enough coursework to learn the content and skills within the state standards, nor be fully prepared for credit-bearing postsecondary coursework.* A bill to raise the graduation requirements to meet the ACT recommended core was "floated" in the legislature that year, but did not move forward.

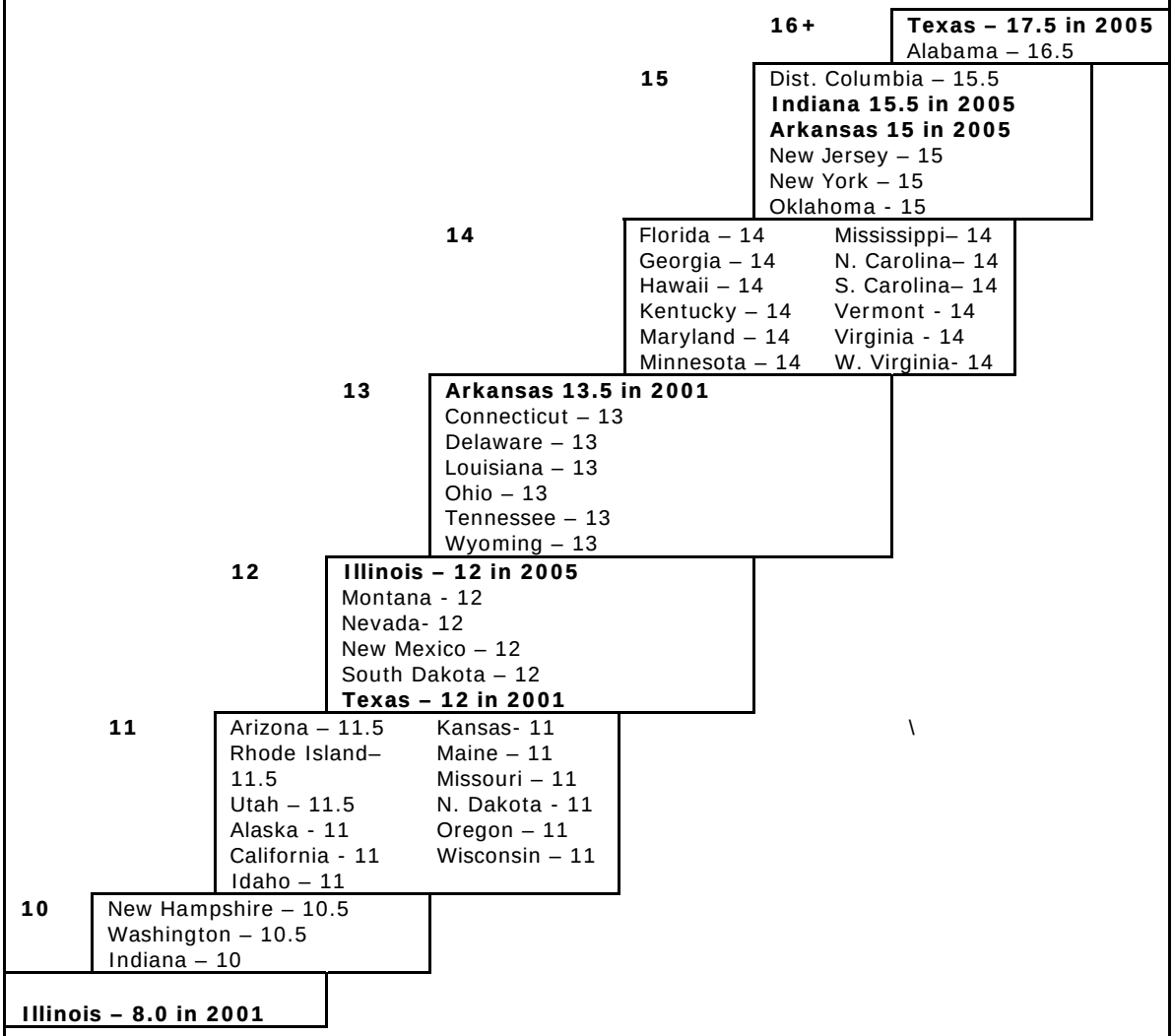
In 2005, SB575 proposed increasing high school graduation requirements from nine to twelve academic courses and also requirement two writing-intensive courses. Passed in May 2005, the legislation specifies that mathematics include at least Algebra I and a course with geometry content. It calls upon the Illinois State Board of Education to develop guidelines for writing-intensive courses but does not specify that guidelines for course content be developed. The new requirements will be phased in over four years starting with students entering high school in the fall of 2005.

With the adoption of SB575, Illinois would move from lowest to average among states in the number of academic courses required for high school graduation.

College and University Admission Requirements

In 1983, the Illinois Board of Higher Education began a study of admission requirements in response to concerns about the increasing need for remedial coursework among students entering Illinois colleges and universities. In 1985, IBHE recommended that college-bound students complete a college-preparatory curriculum consisting of a total 15 units, specifying courses in English, social studies, mathematics, science, and electives. The recommendations provided brief descriptions of the content and level of the courses. The requirements were to be in effect for students entering public universities and transfer programs at community colleges in the fall of 1993. Studies conducted in the mid-1980s by ISBE indicated that most Illinois high schools would be able to provide a college preparatory curriculum that met or exceeded the admission requirements.

State Requirements for High School Graduation
Academic Requirements* in Carnegie Units
2001 with 2005 Requirements for Selected States



*English/Language arts, Social studies, Mathematics, Science, and Arts/Vocational
Source: *2003* Digest of Education Statistics, Table 152. U.S. Department of Education

College and University Admission Requirements

In 1983, the Illinois Board of Higher Education began a study of admission requirements in response to concerns about the increasing need for remedial coursework among students entering Illinois colleges and universities. In 1985, IBHE recommended that college-bound students complete a college-preparatory curriculum consisting of a total 15 units, specifying courses in English, social studies, mathematics, science, and electives. The recommendations provided brief descriptions of the content and level of the courses. The requirements were to be in effect for students entering public universities and transfer programs at community colleges in the fall of 1993. Studies conducted in the mid-1980s by ISBE indicated

that most Illinois high schools would be able to provide a college preparatory curriculum that met or exceeded the admission requirements.

Comparison of 2005 High School Courses Requirements for Graduation and Public University Admission	
High School Graduation Full Implementation in 2008-2009	**University Admission**
As a prerequisite to receiving a high school diploma, each pupil entering the 9th grade in the 2008-2009 school year or a subsequent school year must, in addition to other course requirements, successfully complete all of the following courses:	No new student shall be admitted … unless such student also has satisfactorily completed at least 15 units of high school coursework from the following 5 categories:
• 4 years of language arts • 2 years of writing intensive courses, one of which must be English and the other of which may be English or any other subject. When applicable, writing-intensive courses may be counted towards the fulfillment of other graduation requirements	4 years of English (emphasizing written and oral communications and literature, of which up to 2 years may be collegiate level instruction);
3 years of mathematics, one of which must be Algebra I and one of which must include geometry content	3 years of mathematics (introductory through advanced algebra, geometry, trigonometry, or fundamentals of computer programming;
2 years of science	3 years of science (laboratory sciences);
2 years of social studies, of which at least one year must be history of the United states or a combination of history of the United States and American government	3 years of social students (emphasizing history and government);
1 year chosen from music, art, foreign language, which shall be deemed to include American Sign Language, or vocational education	2 years of electives in foreign language, music, vocational education or art
	Except that up to 3 of 15 units of coursework may be distributed by deducting no more than one unit each from the categories of social studies, mathematics, sciences and electives and completing those 3 units in any of the 5 categories.
Source: *SB575*	Source: Included in the statutes for each university, see for example (110 ILCS 665 10-85)

The IBHE policy provided flexibility to colleges and universities to serve students who attended high schools that could not provide sufficient college-preparatory courses, adults returning to college, and "educationally disadvantaged" students. These students could be admitted if they demonstrated that they had the knowledge and skills equivalent to those students who completed the core curriculum or if they were admitted to a special assistance program.

In 1988, the Advisory Committee on Admission Requirements, convened by ISBE and IBHE, developed suggested learning outcomes for college-bound students to align course admission requirements with the learning outcomes developed for

elementary and secondary school. Because the Advisory Committee had recommended that high schools, rather than colleges and universities, should identify college-preparatory courses, the learning outcomes for college bound students could be used by high schools to identify the courses in their college preparatory curriculum. (ISBE and IBHE, March 1988)

In 1989, the IBHE recommendations were formalized as admission requirements in the statutes of each public university. The legislation added vocational education as an elective and provided additional flexibility by allowing up to three units to be redistributed among the categories.

In 2000, the IBHE began a reexamination of the issues related to high school preparation for college, which resulted in proposed legislation to increase high school graduation requirements to be consistent with college admission requirements. In 2001 a comprehensive approach to improving readiness for college was adopted. As part of this plan, legislation was drafted to increase high school course requirements for graduation to be consistent with college and university admission requirements. Although considerable interest was generated, the legislation did not pass. (IBHE October 2000, August 2001, October 2001)

Table B in the Appendix compares Illinois' previous high school graduation requirements with the new legislation, Illinois college and university admission requirements, examples from other states, and the readiness curriculum recommended by ACT.

Illinois District Graduation Requirements

Individual school districts assure that their requirements meet the state minimums set forth in the School Code, and then locally determine whether additional courses and credits are needed for graduation.

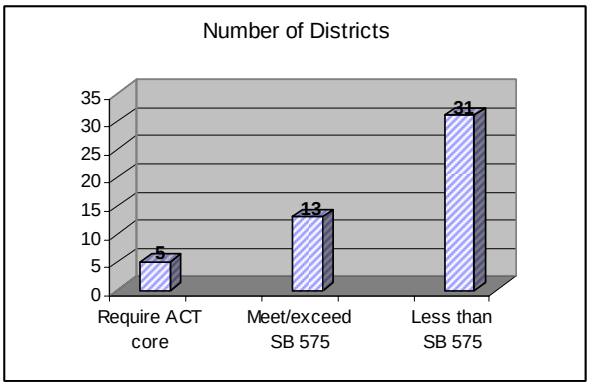
No single data base exists that compiles these local policies. As a proxy, we studied graduation requirements for high schools in the Large Unit District Association (LUDA), which includes districts serving 3500 students or more. These 54 districts educate over ½ of all Illinois public school students. Graduation requirements were obtained for 44 of the LUDA districts, showing the following patterns:

- Only five districts (11% of the sample) require the equivalent of the 13 ACT core courses for graduation (Chicago, Danville, Huntley, Rockford and Wheaton). Four of the five had recently adopted these stronger requirements, and most phase them in with incoming freshman classes.

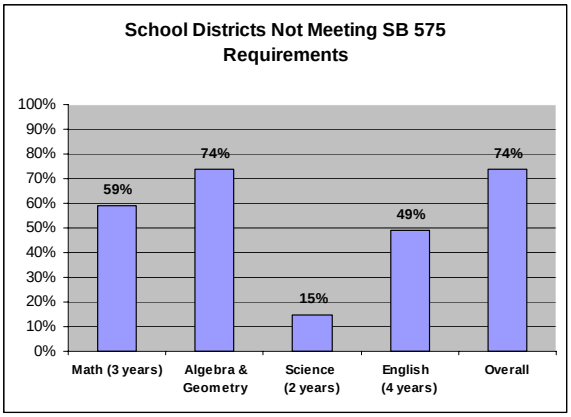
- Eight districts, in addition to the five listed above, (a total of 29% of the sample) would meet or exceed the requirements proposed in Senate Bill 575 (4 years of Language Arts, 3 years of Mathematics, 2 years of science, 2 years of social studies, and 1 year music, art, foreign language, or vocational education). Two years of writing-intensive courses are also required under the ACT recommended core

- The remaining 31 districts in the LUDA sample (71%), while meeting the current state minimum requirements, require neither the SB 575 course minimum nor the ACT recommended core.

In many cases, the sampled districts listed their minimum graduation requirements, and in a separate section, listed the requirements for college admission. Clearly, with the exception of a handful of the sampled LUDA districts, there is not a strong connection between course requirements for graduation requirements and college admission requirements at the local district level.



In May of 2005, responding to a request from the Illinois General Assembly, the Illinois State Board of Education (ISBE) contacted school districts to determine current graduation requirements. Their current requirements were compared to those proposed in Senate Bill 575.



As in the LUDA sample, the ISBE survey illustrates that most local district graduation requirements fall well below those proposed by both SB 575 and those required for four-year college admissions.

Policy Options

The recently adopted graduation requirements represent a major step forward in strengthening the high school curriculum for all students. Illinois will move from the lowest to average among states in number of academic courses required for graduation from high school. More importantly, Illinois students will have a better chance to meet Illinois Learning Standards and to be prepared for careers and college-level work.

The adoption of new high school graduation requirements now represents the starting point for strengthening the Illinois high school curriculum. However, the new graduation requirements are not strong enough to assure that all students are well prepared for college and careers. For the past 25 years, research has consistently shown the relationship between a 13-unit academic core curriculum and readiness for college. More recent studies recommend a 17 to 18-unit curriculum to enable students to take advanced courses in each of the academic areas. The content and level of course work is critical, particularly for mathematics, in order to be ready for college. Steps may be taken to assure that content and rigor is adequately considered in the implementation of the new requirements.

The Illinois Board of Higher Education might consider working with the Illinois State Board of Education and the Illinois Community College Board through the Joint Education Committee to:

- ***Develop definitions and guidelines to assist schools in the implementation of the new high school graduation requirement using the Illinois Learning Standards.*** Course content guidelines are needed to assist schools in implementing the new curriculum. In developing the guidelines, the Illinois Learning Standards can be aligned with generic course titles and descriptions, so that content is emphasized. Course titles and descriptions can be used to communicate effectively with students and their families, while educators can use the ILS to develop courses and assess achievement of standards. Current assessment systems would adequately cover the increased requirements in mathematics and science. However, consideration might be given to reinstating the writing assessment to assure that the objectives of the writing-intensive courses and language arts requirements are being met.

- ***Align the high school graduation requirements with college and university high school course requirements for admission and the college general education curriculum.*** To have optimum application, the content guidelines for high school courses required for graduation can be coordinated with course requirements for admission to Illinois colleges and universities and with the general education curriculum. The Illinois Learning Standards and the General Education Core Curriculum, developed by higher education through the Illinois Articulation Initiative, may serve as the foundation for alignment.

  As part of the alignment process, the differences in content should be defined among the 12-unit high school graduation requirements, the 15-unit university admission requirements, and the 17 to 18-unit college readiness curriculum. This information could be used by high schools that choose to encourage students to take courses beyond the minimum or adopt stronger graduation requirements.

- ***Encourage colleges and universities to assist schools in strengthening the high school curriculum and to provide incentives for students who complete a college-preparatory curriculum.*** Colleges and universities can assist schools by assuring that new teachers are prepared to teach advanced courses, providing professional development for practicing teachers, assisting with course design, and providing dual enrollment opportunities. Colleges and universities may also consider offering incentives in admission or course placement to students who complete a college-preparatory or college-readiness curriculum.

- ***Redouble efforts to assist minority students and strengthen the schools they attend.*** Research indicates that Black students, particularly those attending all Black schools, do not benefit from moving up the math ladder as other students clearly do. Further investigation is needed to determine the reasons and identify solutions for this gap.

- ***Seek continuation of the incremental improvement of high school graduation requirements beyond the 12-unit curriculum.*** After full implementation of the new high school graduation requirements in the 2008-2009 school year, improvement of the curriculum should continue incrementally until the high school graduation requirements are consistent with the 15-unit college and university admission requirements and related Learning Standards. Ultimately, consideration should be given to adopting the 17 to 18-unit college-readiness curriculum recommended by ACT.

To accomplish these objectives, three steps might be considered. First, develop an articulated framework of high school requirements that defines courses in terms of the Illinois Learning Standards and links high school graduation requirements to college admission requirements. Second, develop regional and statewide partnerships among high schools, community colleges, and universities to guide the implementation and assist with solving problems that may arise. Third, provide trainers across the state to work with classroom teachers, using the Standards Aligned Classroom Training program as a model.

Conditions Necessary for Implementation

The history of policy development in Illinois shows that higher education and K-12 education have often pursued the same goals in quite different ways using different terms and measures. Illinois education system is characterized by a large number of autonomous individual units (schools, districts, colleges, universities, and university systems) with diverse student populations, resources, and community priorities. The state-level education boards have quite different roles and responsibilities, operating methods, and staffing capacities.

The differences among the sectors have been evident in past efforts to improve the critical transitions from high school to college. High school graduation requirements and college and university admission requirements have been difficult to coordinate. While IBHE expressed admission requirements in terms of the number of courses, the ISBE has focused on the Illinois Learning Standards and related assessment measures. Joint efforts to develop learning outcomes for college bound students in the 1980s successfully brought faculty together to link courses to the learning standards. Implementation was limited, however. Rather than high school courses, colleges and universities continued to emphasize class rank, grade point average, and admission test scores. The learning outcomes for college bound students became obsolete as K-12 put aside the learning outcomes and developed a new set of standards.

In addition to coordination challenges, the concerns of schools need to be addressed. In the past, high school leaders have voiced several concerns about course requirements for high school graduation and college admission. Smaller schools were concerned that they would not have the teachers and resources to offer advanced academic courses. Larger districts that developed extensive and diverse curricula did not want to limit the variety of courses that their students could choose. Vocational educators and others were concerned that faculty positions might be shifted to academic courses and students' opportunities for employment preparation curtailed.

The legislation, supported by both ISBE and IBHE, elevates the priority on improving the high school curriculum. Cooperation among the sectors will be needed in order for the new high school graduation requirements to be fully implemented and make a difference. Despite the history, the high school curriculum can be strengthened through cooperative efforts particularly under the following conditions:

- That the Joint Education Committee provides leadership and guidance for implementation and involves all sectors of education.

- That the Illinois Learning Standards serve as the foundation for developing course definitions and content guidelines. By specifying the content levels for

some courses, the legislation provides an impetus to use the ILS and related assessment methods.

- That the twenty-five years of research on high school preparation for college, providing evidence of the importance of courses and the content of those courses, be used to develop definitions and content guidelines to assist schools in implementing the new requirements.

- That progress in developing guidelines and implementing the high school course requirements for graduation is monitored and reports submitted annually to the Joint Education Committee.

- That options for providing courses be explored and expanded including the Illinois Virtual Campus, inter-district consortia arrangements, high school-college partnerships, and dual enrollment opportunities.

- That sufficient resources and expertise be dedicated to attaining the appropriate definitions of course content and assuring the capacity of schools and teachers to deliver effective instruction in the required courses.

Summary

The past twenty years have seen important improvements taking root in P-16 education. The P-12 shift to standards-based curriculum, instruction and assessment means that all students are expected to achieve to specific, important learning standards. In many states, curriculum guides and course requirements have followed the adoption of state standards. And in some states, the P-12 and higher education sectors are working collaboratively to align curriculum and shepherd students through advanced studies.

While the standards movement in education continues to mature, high school reform has lagged behind. National leaders calling for high school reform predict dire consequences for the economy and American global leadership if high school effectiveness does not improve. Illinois data show that high school students lag behind in academic performance. While many go on to college, too many are under-prepared to do so, adding to the cost of remediation and the time to degree attainment. Many high school students are still “tracked” out of preparation for higher education, disproportionately affecting poor and minority students. Illinois’ graduation requirements, previously among the lowest in the nation, have not provided impetus or opportunity for high levels of high school attainment for all students.

The recent passage of SB575 is an important step toward improving high school curriculum and student attainment of important standards of learning. With appropriate management of process and monitoring of progress, including careful attention to defining course content using the Illinois Learning Standards, the benefit of raising graduation requirements can be realized: more students who are better prepared for higher education and the work force. The dynamic process of improving high school education and its student outcomes should continue beyond the implementation of SB575’s requirements; it should eventually become “seamless” with higher education admission and preparation requirements.

The Joint Education Committee has as its charge the coordination of policy and programs across P-12 and higher education. With high school issues at the crossroads between educational sectors, they are a natural and logical “fit” with the mission of the JEC. With strong leadership, expertise, and monitoring capacity, the JEC can provide the General Assembly with useful progress reporting and oversight for results.

This paper provided policy options for consideration by the Illinois Board of Higher Education, the Illinois Community College Board, the Illinois State Board of Education, and the Joint Education Committee. Implementation of the new high school graduation requirements presents an opportunity to create an articulated framework that will link Illinois Learning Standards, high school graduation requirements, and college admission requirements. Partnerships among high schools, community colleges, and universities will be needed to assure that all students have the opportunity to be prepared for college.

Table A
New High School Graduation Requirements
Selected States*

	Arkansas	**Texas**	**Indiana**
English	4 units – 9th, 10th, 11th and 12th grade English	4 units: English I, II, III, and IV. English I and II for Speakers of Other Languages maybe be substituted for English I and II	4 units including literature, composition and speech
Speech	½ unit	½ unit	
Mathematics	4 units including Algebra I & II, Geometry or Investigating Geometry, and choice of, Pre-calculus, Calculus, Trigonometry, others	3 units including Algebra I and II and Geometry	3 units including Algebra I & II and Geometry or completion of the Integrated Math Series
Natural Science	3 units from Physical Science, Biology or Applied Biology, Chemistry, Physics or Principles of Technology	3 units. 1 unit must be a biology credit. 2 units from Integrated Physics & Chemistry,; Chemistry, AP or IB Chemistry; Physics, Principles of Technology, AP or IB Physics	3 units including biology, Chemistry I or Physics I or Integrated Chemistry-Physics, any additional core science course
Social Studies	3 units including Civics or American Government, World History, and U.S. History	3.5 units: I unit each from World History Studies, World Geography Studies, and U.S. History. ½ unit of U.S. Government	3 units including U.S. History, U.S. Govern-ment, Economics, & World History-Civilization or Geography-World History
Economics	-	½ unit with emphasis on the free enterprise system and its benefits	-
Languages Other than English		2 units consisting of Level I and II in the same language	
Fine Arts	½ unit	1 unit	
Total Academic	*15 units*	*17.5 units*	*13 units*
Electives or additional components	6 units - Career focus	3.5 units from list of approved courses, innovation courses, JROTC, or driver education (1/2 unit) 1 unit Technology Applications	2.5 units in world languages, fine arts, or career/technical 3 units (Career Academic Sequence Recommended)
Physical Education	½ unit		1 unit
Health and Safety	½ unit	½ unit or Health Science Technology	½ unit
Total	22 units	24 units	20 units

*One unit is the equivalent of 1 year of study. Units were adjusted to provide comparability.
Source: Achieve, Inc. (2004). *The Expectations Gap.*

Table B
Comparison of High School Graduation Requirements

	Language Arts	Mathematics	Sciences	Social Studies	Other	Total Units
Current Illinois High School Graduation Requirements	**3** years of language arts	**2** years of math, one may be computer tech	**1** year of science	**2** years of social studies with U.S. History or History-Government	**1** year chosen from music, art, foreign language, or vocational ed	**9**
SB 575 Year 1 2005-2006	**3** years of language arts	***3 years of math***	**1** year of science	**2** years of social studies with U.S. History or History-Government	**1** year chosen from music, art, foreign language, or vocational ed	**10**
SB 575 Year 2 2006-2007	**3** years of language arts Plus ***2 writing-intensive courses****	***3 years of math, Algebra I & 1 with geometry content***	**1** year of science	**2** years of social studies with U.S. History or History-Government	**1** year chosen from music, art, foreign language, or vocational ed	**10**
SB 575 Year 3 2007-2008	**3** years of language arts Plus 2 writing-intensive courses*	***3*** years of math, - Algebra I & 1 with geometry content	***2 years of science***	**2** years of social studies with U.S. History or History-Government	**1** year chosen from music, art, foreign language, or vocational ed	**11**
SB 575 Year 4 2008-2009	***4 years of language arts*** Plus 2 writing-intensive courses*	***3*** years of math, - Algebra I & 1 with geometry content	***2*** years of science	**2** years of social studies with U.S. History or History-Government	**1** year chosen from music, art, foreign language, or vocational ed	**12**
Illinois Public University Admission Requirements	**4** years written & oral communication & literature	**3** years algebra, geometry, trigono-metry, or computer programming	**3** years laboratory science	**3** years emphasizing history & Government	**2** years foreign language, music, art, or vocational education.	**15**
Indiana (academic requirements)	**4** units including literature, composition & speech	**3** units including Algebra I & II and Geometry	**3** units including biology & chemistry or physics	**3** units including US history & government & world history	**2.5** units in world languages, fine arts, or career-technical	**15 ½**
Texas (academic requirements	**4 ½** years English with **½** year speech	**3** units-Algebra I & II & Geometry	**3** units-biology, physics, chemistry, principles of tech	**4** US & world history, economics & government	**1** unit fine arts **2** units foreign language	**17 ½**
ACT "Readiness" Core	**4** years of English **1** year Speech	**4-5** years of Algebra I & II, Geometry, Trig & Calculus	**4** years of general science, chemistry biology & physics	**4** years of social studies		**17-18**

***One of the writing intensive courses must be English and the other may be English or any other subject. Writing-intensive courses may be counted toward fulfillment of other graduation requirements.

References

ACT (2004). *Crisis at the Core: Preparing all Students for College and Work.*

Adelman, Clifford (1999). *Answers in the toolbox: Academic intensity, attendance patterns and bachelor's degree attainment*. Washington, DC: U.S. Department of Education.

Adelman, Clifford (2004). *Principle indicators of student academic histories in postsecondary education, 1972-2000.* Washington, D.C.: U.S. Department of Education, Institute of Education Sciences. *http://www.ed.gov/rschstat/research/pubs/prinindicat/prinindicat.pdf*

(The) American Diploma Project (2004). *Ready or Not: Creating a High School Diploma That Counts*.

Carnevale, Anthony P and Donna M. Desrochers. (2003) *Standards for What? The Economic Roots of K-16 Reform*. Educational Testing Service, 2003.

(The) Education Trust (Fall 1999). Ticket to nowhere: the gap between leaving high school and entering college and high-performing jobs. *Thinking K-16*, Vol. 3, Issue 2, Washington, DC: The Education Trust.

Friedman, Thomas L. "It's a Flat World, After All," *New York Times*, April 3, 2005.

Gates, Bill (February 2005). Prepared Remarks, National Governors Association/Achieve Summit, http://www.nga.org/cda/files/ES05GATES.pdf

Illinois Community College Board, (October 2004). Illinois Community College System Performance Report, Fiscal Year 2004.

Illinois Board of Higher Education). *Inventing in the Future: College Readiness in Illinois* (October 2000); *Gateway to Success* (August 2001); *Improving College Readiness in Illinois: A Philosophy and Agenda for Student Success* (October 2001);

Illinois State Board of Education and Illinois Board of Higher Education (March 1988). *Academic Preparation for College in Illinois: Admission Requirements for Public Colleges and universities and Suggested Learning Outcomes for College-Bound Students.*

National Governors Association (February 2005). *National Education Summit on High Schools, Briefing Guide*. http://www.nga.org/cda/files/05EdSummitGuide.pdf

Rau, William and Wick, Shawn (2004). *The Broken Ladder: On the Inherent Inequality of Segregated Schools in Illinois.* Center for the Study of Education Policy, Illinois state University.

U.S. Bureau of the Census (March 2001). *CPS Annual Demographic Survey*, March Supplement, available online at http://ferret.bls.census.gov/macro/032001/perinc/new03_001.htm

U.S. Bureau of the Census, (2000). *CPS Annual Demographic Survey.* http://www.igpa.uillinois.edu/abstract/Population/01_15.htm

U.S. Chamber of Commerce (April 2004). "Jobs, Trade, Soucing, and the Future of the American Workforce.
http://www.uschamber.com/publications/reports/0404sourcing.htm

U.S. Chamber of Commerce, Center for Workforce Preparation (Summer 2003). "Rising to the Challenge: Business Voice on the Public Workforce Development System (A Special Report on Five Midwestern States).
http://www.uschamber.com/NR/rdonlyres/ey34vw2tni4xnsfyfj7c36igqhnbrfilgwkx34bk7nbk5qk4wdwy4xgmb5dtslxg3skp6iecva7fvm/aspecialreportonfivemidwesternstates.pdf

Venezia, Andrea, Michael W. Kirst and Anthony L. Antonio (2004). *Betraying the college dream: How disconnected K-12 and postsecondary education systems undermine student aspirations*. The Bridge Project, Stanford University, San Franciso, CA.

Vogt, W. Paul (2004). *Some Findings From National Data Bases* Center for the Study of Education Policy, Illinois state University.

.