



Our Children at the Crossroads

Why Michigan Must Raise High School Graduation Requirements

A Whitepaper by



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Executive Summary

In view of urgent educational and economic imperatives, the Michigan Association of Secondary School Principals supports statewide high school graduation requirements along the lines proposed by State Superintendent of Public Instruction Michael Flanagan. Among the numerous, undeniable imperatives are these:

- The new “knowledge economy” is creating more than enough high-paying jobs to replace the 200,000 manufacturing jobs lost from Michigan since 2001. But most new jobs require education beyond high school—and companies that can’t find the talent they need in this state will keep filling them elsewhere.
- Exposing all high school students to a rigorous, “college preparatory”-type curriculum is **the** key factor influencing high school students to enroll in a two- or four-year college and go on to earn a degree, according to leading education research studies.
- In Michigan, 70 percent of students graduate from high school, 41 percent start college, 29 percent make it to the second year, but only 18 percent earn a degree.
- High school students planning to enter a career or technical trade need to learn the same English and mathematics content and skills as those who plan to go to college. For example, tool and die makers and sheet metal workers must have four to five years of apprenticeship or postsecondary training, including algebra, geometry, trigonometry.
- Among Michigan’s 2005 high school graduating class, only 53 percent took a “college preparatory” type of curriculum.

The requirements proposed by Superintendent Flanagan, called the *Michigan Merit Core*, include the academic courses that MASSP considers essential:

- Four years of English language arts
- Four years of mathematics

These—plus strong natural science and social science requirements—are the common threads linking most authoritative definitions of a “rigorous” or “college preparatory” course of study. Like Superintendent Flanagan, we also believe it is critical that high school students take mathematics in their senior year.

MASSP urges Michigan lawmakers to consider these requirements **non-negotiable**.

Our support for the proposed *Michigan Merit Core* of courses is based partly on the fact that the graduation requirements will be tied to specific *content expectations and skill sets* that all students need to prepare for employment and education beyond high school. This gives local school districts great flexibility to determine how best to teach content skills so that students meet the expectations. For example, students in a vocational curriculum might meet mathematics expectations in building trades classes.

While many high schools already offer demanding curriculums, the seats in these classes are not filled—primarily because of the low expectations of parents, peers, schools, community, or students themselves. For instance, only 27 percent of Michigan parents polled in 2005 agreed that a good education is “essential” for getting ahead in life.

Michigan’s education policymakers must not let ignorance—or any tendency to take the easy way out—decide the future of our children and our state. Only education policymakers, by virtue of their governmental authority, are capable of raising expectations for high school graduation statewide.

MASSP—representing 96 percent of Michigan’s middle and high school principals—believes that policymakers are duty-bound to lead the way: Raise high school graduation expectations so that all students benefit from curriculums offering rigorous, “post-secondary”-type content.

“Right now in Michigan, we require only one course for our high school graduates: a single semester of civics. Only one-third of the students who graduate from our high schools right now have taken the math, science, and communication courses we know they’ll need to compete in our new economy. That is why I called for the creation of a required core curriculum for all Michigan high school students. ... So we will set the bar high, but we’ll invest in our classrooms to make sure your child can clear that bar, too.”

Governor Jennifer Granholm

State of the State Address, Jan. 25, 2006

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A Matter of Government Responsibility

Michigan’s 1.75 million school children stand at a critical crossroads, facing an uncertain future.

One path leads upward—an arduous climb over sometimes difficult terrain. It would build the strengths and stamina our students need to thrive in an intensely competitive world economy. It would help them to secure at least a middle-class lifestyle for themselves and their families, as well as reinvigorate business throughout the state.

The other path requires little or no exertion. Deceptively familiar and smooth, it might be called “the easy way out.” It would lead a great many students to a lifetime of low income, under-achievement, and limited opportunity, hastening the decline of Michigan’s economy. It’s where many of our high school students find themselves today.

While the choice is **obvious**, it’s really not up to the students or their parents or teachers or schools.

It’s the responsibility of the state education policymakers to decide the future of Michigan and its children. And that decision can’t wait any longer.

Our state is running behind its competitors, both in the U.S. and overseas. Global competition, domestic deregulation, and other economic forces have wiped out more than 200,000 Michigan manufacturing jobs just since 2001.

While the new “knowledge economy” is creating enough high-paying jobs to more than replace those lost, most new jobs require education beyond high school—and a shortage of 334,000 well-educated workers is predicted for Michigan within a decade.

Companies that can’t find the talent they need here at home will keep filling jobs abroad.

A Clear-cut Path to Success

The future of Michigan’s high school graduates—and the state’s economy—depends on rapidly increasing two-year and four-year college enrollment and graduation rates, as well as other post-high-school education.

Leading research studies on education reform agree on the key factors that influence high school students to enroll in and complete college. Among these are:

- Exposing all high school students to a rigorous, “college preparatory”-type curriculum.
- Fostering equal opportunity by offering a state-funded college entrance exam to all Michigan high school students.

Michigan took the bold first step by adopting a new Michigan Merit Exam, based on the ACT college entrance exam, in Jan. 2005.

But a serious problem remaining is that—here and across the U.S.—curriculum quality varies markedly from school to school. As the Center for Education Reform points out:

“The bottom line is that not all high schools offer the same opportunities to each student. Students from rural areas, working class students, and minority students are more often affected by schools that do not offer the advanced courses needed to prepare them for college.”¹

Many factors—such as family income, ethnicity, parental education, and peer pressure—influence the decisions of high school students as to whether or not to pursue postsecondary education. However, the resounding conclusion of the chief studies on the U.S. educational system is that curriculum is the most important factor of all:

“Recent research indicates that high school graduates who follow a ‘college preparatory’ program are more likely to enroll in and complete college than students who complete a ‘regular’ high school diploma program.”

—**National Commission of the High School Senior Year**

“School quality is the most likely predictor that a student will or will not attain his bachelor’s degree. The content of a child’s high school curriculum has everything to do with college success.”

—**Center for Education Reform²**

“Significantly fewer blacks and Hispanics than whites attain bachelor’s degrees. Many factors influence this attrition, but the preparation students receive in high school is the greatest predictor of bachelor’s degree attainment—more so than family income or race.”

—**American Diploma Project, Achieve, Inc.³**

In short, we must stop the channeling of large numbers of students—particularly disadvantaged students—into “general” curriculums which discourage preparation for college and high-paying careers.

Without doubt, it’s time for Michigan to enact statewide high school graduation requirements to guarantee that local school districts provide rigorous, “post-secondary”-type content in curriculums for all students.

Currently, state law requires only one semester of civics for high school graduation. Stemming from a long history of “local control,” other graduation requirements have been left up to local school boards. But as the Detroit News recently pointed out:

“Currently, only one-third of Michigan school districts mandate even the most basic algebra, and fewer than 25 percent of students who aspire to go to college are taking a course schedule rigorous enough to prepare them for college. This must change now. ... Handing out diplomas to students who haven’t passed these basic courses is a disservice to those students and the state’s employers.”

1 “Finishing College: The Facts That Most Influence Success,” Christine Lynd, CER Action Paper, Dec. 31, 1999.

2 Ibid.

3 “Ready or Not: Creating a High School Diploma that Counts,” American Diploma Project, Achieve, Inc., Washington, DC, 2004.

Echoing that opinion, the Detroit Free Press said:

“It’s a question of redirecting resources toward the priority of turning out Michigan high school graduates who are ready for the technology-driven global jobs of the 21st Century. “Local control” may have been an excuse when young adults in Michigan could land good-paying factory jobs and enjoy the American dream without even a high school diploma. Those days are done, and the sooner Michigan comes to grips with that reality, the sooner the state can turn the future toward a brighter economy.”

State Superintendent of Public Instruction Michael Flanagan may have put it best:

“The perfect storm is heading toward Michigan—the pressures of the global economy that our current system is not set up for, and the belief that the old auto industry will come back and everything will be fine just the way things were.”

The New Graduation Requirements

In Nov. 2005, Superintendent Michael Flanagan submitted to the State Board of Education a thoughtful plan to ensure that local school districts provide rigorous content in curriculums for every student. The state board approved the plan on Dec. 13, 2005.

Michigan’s legislature must take action in order to implement the new high school graduation requirements statewide. Called the *Michigan Merit Core* of academic courses, the requirements include:

- four years of English language arts
- four years of mathematics (one year each of Algebra I, Geometry, Algebra II, and an additional math class in the senior year)
- three years of science (one year each of Biology; Physics or Chemistry; and one additional year of science)
- three years of social science, which must include a semester of Civics and a semester of Economics
- two years of world languages
- one year of health/physical education
- one year of visual and performing arts
- one or more online credit or non-credit courses or learning experiences

All high school students would also be required to take the Michigan Merit Exam (or the alternate MI-ACCESS assessment for students with severe disabilities) in order to graduate.

The basis for these recommendations was a year of research by a task force of education experts who examined the best practices of five other states that have enacted high school graduation requirements.

Is this the right approach for Michigan?

The Michigan Association of Secondary School Principals strongly believes that the majority of high school students should be required, at minimum, to take four years of language arts instruction at grade level, and four years of rigorous mathematics. We also agree with the state superintendent that it is critical for high school students to take mathematics in their senior year.

These—along with strong natural science and social science requirements—are the common threads linking most authoritative definitions of a “rigorous” or “post-secondary preparatory” course of study, as shown in the following chart. We urge Michigan lawmakers to consider them **non-negotiable**.

	Michigan Merit Core (proposed)	ACT	American Diploma Project/ National Governors Association	“Answers in a Toolbox” U.S. Dept. of Education	Texas Education Agency*	National Center for Education Statistics
English Language Arts	Four years	Four years or more	Four courses	Four units	Four and a half credits	Four years
Mathematics	Four years	Three years or more	Four courses	Four units	Three credits	Four years
Natural Science	Three years	Three years or more		Three+ units	Three credits	Three years
Social Science/ History/Economics	Three years	Three years or more		Three+ units	Four credits	Three years
Foreign Language	Two years			Two or more units	Three credits	Three years
Health/Physical Education	One year				One half to one credit	
Visual/Performing/ Fine Arts	One year				One credit	
Online course or experience	One or more					
Computer Science/ Technology				One-half unit	One credit	

*Texas’s recommended “Distinguished Achievement High School Program”

Although the State Board of Education’s graduation requirements differ in various respects from other definitions of “rigorous,” MASSP supports the state’s superintendent’s proposal for increased high school graduation requirements.

In part, this is because we believe that—in order for our children and our state to thrive in the future—we must encourage all graduating high school students to strive for a technical certificate or a two-year or four-year college diploma.

Our support is also based on the fact that the graduation requirements will be coupled with specific *content expectations and skill sets*, developed by the Michigan Department of Education, that all students need in order to prepare them for employment and education beyond high school.

This gives local school districts tremendous flexibility to determine—in cooperation with teachers, students, parents, and the community—how best to teach content skills so that students meet the expectations. For example, students in a Career & Technical Education curriculum might meet algebra and geometry expectations in building trades classes.

While such flexibility is important, it is crucial that the legislation enacting statewide high school graduation requirements not be so watered down with additions, amendments, and exceptions that the goal of mandating rigorous curriculums is lost.

As the Education Alliance of Michigan expressed it:

“The state should develop high school standards that clearly describe the knowledge and skills and level of rigor expected of required courses to ensure that educators and the public have a common understanding of what is essential for students to learn. These standards should be aligned with the K-8 Grade Level Content Expectations and the knowledge and skills required for college and workplace success.”

The Alliance further called for specificity in the required course of study, such as “four years of grade-level English including literature, writing, reading, logic and communication skills; four years of math including algebra I and II, geometry, data analysis, and statistics; and increased rigor for science, social studies, and other areas.”

That mirrors recommendations from Achieve, Inc., the nonprofit educational organization created by state governors and business leaders.

The Educational Imperatives

The pressing need for demanding statewide high school academic requirements is evident in both the positives and negatives of Michigan’s situation. Unfortunately, with respect to our educational system, much of the news is bad:

- U.S. mathematics students in 4th and 8th grade perform consistently below most of their peers in industrialized nations around the world (ranking 8th or 9th out of 12 countries studied). That trend then continues into high school, contrary to the widely held belief that our students do well up until high school.⁴
- Only 12 percent of Michigan teens say that high school is “very challenging.”⁵
- Less than one-third of Michigan school districts require Algebra I and slightly more than one-third require Biology. Instead, districts tend only to require “x number of math credits” or “x number of science credits” without designating the rigorous subjects necessary for students to master so as to succeed in today’s global economy.⁶
- Taking a high-level math course beyond Algebra II (e.g., calculus or trigonometry) is a key indicator of whether high school students will graduate and earn a college degree, but only 41 percent of U.S. high school students take such courses.⁷
- High school students planning to enter a career or technical trade following graduation need to learn the same rigorous English and mathematics content and skills as those who plan to go to college. For example, tool and die makers and sheet metal workers must have four to five years of apprenticeship or post-secondary training, including algebra, geometry, trigonometry.⁸
- Just 31 percent of high school students in Michigan graduate both on time and college-ready.⁹

4 Study by American Institutes for Research which reexamined data from three 2003 international surveys of assessing mathematics (Trends in International Mathematics and Science Study and Program for International Student Assessment), Nov. 2005.

5 “The Culture of Education” survey by Your Child, a coalition of Michigan-based education and family organizations, April 2005.

6 Michigan Department of Education survey, 2005.

7 Achieve, Inc.

8 “Ready or Not: Creating a High School Diploma that Counts,” American Diploma Project, Achieve, Inc., Washington, DC, 2004

9 Manhattan Institute.

- About 28 percent of first-year college students nationally are immediately placed into remedial courses. The vast majority of those who take remedial reading or math ultimately fail to earn either an associate’s or bachelor’s degree.¹⁰
- More than half of the students at U.S. four-year colleges—and at least 75 percent at two-year colleges—lack the literacy to handle everyday tasks such as understanding credit card offers, interpreting a table about exercise and blood pressure, or comprehending the arguments of newspaper editorials.¹¹
- Among Michigan’s 2005 high school graduating class, 53 percent took or were planning to take a college-preparatory curriculum (down from 56 percent in 2000); 40 percent chose a less-demanding curriculum; 34 percent rated their high school curriculum as average, below average, or very inadequate.¹²
- Nearly three-fourths of all public high school graduates surveyed nationwide agree that raising graduation requirements to include four years of math, plus biology, chemistry, and physics, would encourage students to work harder and become better prepared.¹³
- Employers estimate that 40 percent of recent high school graduates are inadequately prepared in math, and 38 percent are inadequately prepared for the quality of writing expected.¹⁴
- In Michigan, 70 percent of students graduate from high school, 41 percent start college, 29 percent make it to the second year, but only 18 percent earn a degree.¹⁵
- India’s 200 research universities now turn out more than 5,000 Ph.D.s a year, compared with 40,000 new Ph.D.s in the U.S. But many of the latter degrees go to international students. For instance, non-U.S. residents with temporary visas accounted for one-third of the Ph.D.s awarded in science and engineering in 2003. Moreover, talented young people from developing economies, who demographers call “global denizens,” are now traveling the world to compete for high-tech jobs.¹⁶
- Despite the mountain of evidence to the contrary, only 27 percent of Michigan parents say a good education is “essential” for getting ahead in life. Almost half don’t agree that everyone should have a college education. And, 34 percent don’t agree that people with a college education are usually better-off.¹⁷

Michigan’s education policymakers must not let ignorance—or any tendency to take the easy way out—decide the future of our children and our state.

10 “Rising to the Challenge: Are High School Graduates Prepared For College & Work?” Key findings from surveys of public high school graduates, college instructors, and employers, by Peter D. Hart Research Associates for Achieve, Inc., Dec. 2004 - Jan. 2005.

11 Study funded by the Pew Charitable Trusts, 2005.

12 ACT Profile of the Michigan High School Graduating Class of 2005

13 “Rising to the Challenge.”

14 “A Study of Recent High School Graduates, College Instructors, and Employers,” Achieve, Inc., Feb. 2005.

15 Manhattan Institute.

16 “America’s High Schools: The Front Line in the Battle for Our Economic Future,” National Education Summit on High Schools, 2005.

17 Your Child survey.

The Economic Imperatives

The plain truth of the matter is that opportunities **abound** for a highly educated workforce, and Michigan should be striving to develop a workforce that is second to none in English language and mathematics literacy. Here is just a sample of the good news:

- Today, 60 percent of all jobs require some post-high-school education (compared with 20 percent in 1959)—and the jobs requiring the most education and offering the best pay are the fastest growing.¹⁸
- College-educated workers now earn 62 percent more than high-school-educated workers. Back in 1979, the gap was 43 percent.¹⁹
- Research shows that 84 percent of highly paid professionals took Algebra II or higher in high school, and the employees in the vast majority of good jobs took four years of grade-level English.²⁰
- In a groundbreaking report, economist Alan Krueger estimated that simply working with a computer implies a 15 percent increase in earnings, even after education and other factors are taken into account. When jobs pay well, it is often because they demand the skills of a trade-intensive, high-tech world.²¹
- While American teenagers rank near the bottom of the industrialized world in math problem solving, Stanford University Economist Eric Hanushek estimated that, if the skills gap were closed, American economic growth would increase by one-half percentage point per year—equivalent to about a 20 percent increase in the economy’s long-term potential.²²
- The Bush Administration has proposed a five-year, \$3.75 billion initiative—expected to soon become law—in which the federal government will rate the academic rigor of the nation’s 18,000 high schools. It would then give grants of \$750 to \$1,300 to low-income college freshmen and sophomores who have completed "a rigorous secondary school program of study," similar to that of the Texas Scholars program begun during Bush’s governorship. [See the chart on p. 6] The program would also give \$4,000 grants to juniors and seniors majoring in the physical, life or computer sciences, mathematics, technology, engineering or certain foreign languages, so long as they maintain grade point averages of 3.0 or higher.²³
- Mathematicians are becoming “a new global elite,” according to a recent *Business Week* cover story, and “the rise of mathematics is heating up the job market for luminary quants [quantitative analysts], especially at the Internet powerhouses where new math grads land with six-figure salaries and rich stock deals. ... [The mathematical modeling of human endeavors] promises to be one of the great undertakings of the 21st century. It will grow in scope to include much of the physical world as mathematicians get their hands on new flows of data ... [and create] a laboratory for innovation and discovery composed of numbers, vectors, and algorithms.”²⁴

18 American Diploma Project.

19 *Ibid.*

20 *Ibid.*

21 “How Computers Have Changed the Wage Structure: Evidence from Microdata, 1984-1989,” Alan B. Krueger, *Quarterly Journal of Economics* Feb. 1993.

22 “Education, Laborforce Quality, and Economic Growth,” Eric Hanushek and Dongwook Kim, National Bureau of Economic Research, Dec. 1995).

23 “College Aid Plan Widens U.S. Role in High Schools,” *New York Times*, Jan. 22, 2006.

24 “Math Will Rock Your World,” *Business Week*, Jan. 23, 2006.

- Michigan is the home of 85 percent of the automotive research and development performed in North America. This represents thousands of jobs that require a high level of education. In addition, Michigan’s recent passage of the \$2 billion “21st Century Jobs Fund” is expected to grow and diversify our high-tech economy, creating thousands of additional jobs for highly educated workers in areas such as advanced manufacturing, homeland security, life sciences, and alternative energy.^{25 26}
- In the past three years, domestic automakers have invested more than \$9 billion in their Michigan facilities, and German and Japanese companies invested \$1.7 billion in Michigan. Investments of this magnitude are destined to create thousands of additional jobs for our state.²⁷

Ready—or Not—for Global Competition

Michigan is faced with a serious choice: We can either climb the pathway to development of a highly educated and productive workforce, and preserve our middle class, or continue to let our lifestyle evaporate as students from other nations outperform our own.

A good glimpse of the world that awaits Michigan’s school children can be found in just one example from Thomas Friedman’s book, “The World is Flat.”

Hewlett-Packard, Friedman notes, “has 142,000 employees in 178 countries. It is not only the largest consumer technology company in the world; it is the largest IT company in Europe, the largest IT company in Russia, the largest IT company in the Middle East, and the largest IT company in South Africa. Is HP an American company if a majority of its employees and customers are outside of America, even though it is headquartered in Palo Alto?”

Obviously, companies that have gone global like Hewlett-Packard can hire the best, cheapest labor from anywhere in the world. And only some American workers will benefit: those with the knowledge and skill to research, design, and develop high-tech products, rather than just assemble the parts.

Furthermore, merely *offering* a rigorous “college preparatory” curriculum is not enough to increase Michigan’s rate of college enrollment and graduation.

Many, if not most, high schools already make demanding courses of study available. Unfortunately, the seats in those classes are not filled—primarily because of the low expectations of parents, peers, schools, community, or students themselves.

Only education policymakers, by virtue of their governmental authority, are capable of raising expectations for high school graduation statewide.

In view of urgent educational and economic imperatives, we at MASSP—representing 96 percent of Michigan’s middle and high school principals—believe that policymakers are duty-bound to lead the way: Choose the right path for our children and our state without delay.

²⁵ Michigan Economic Development Corporation

²⁶ State of the State address, Gov. Jennifer Granholm, Jan. 25, 2006.

²⁷ State of the State address.



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